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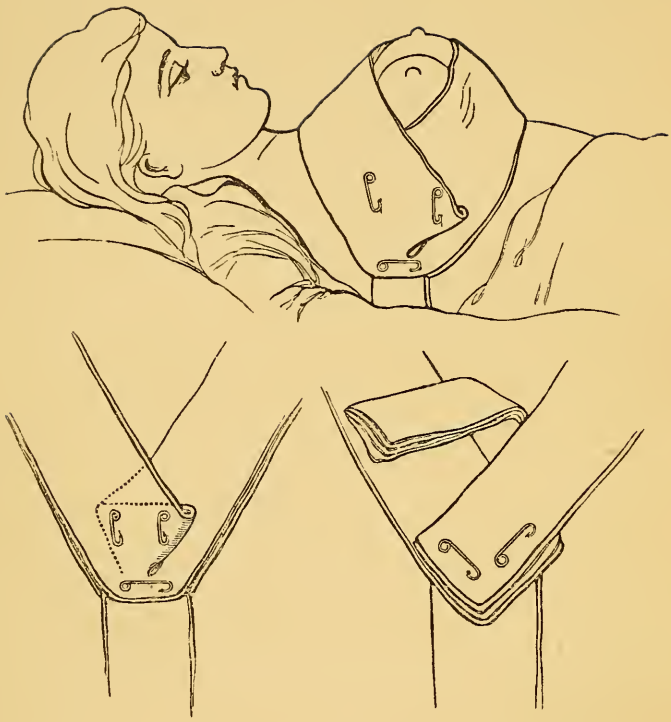

The upper figure shows the double Y breast bandage in position. The lower left-hand figure shows how the Y bandage is made. The third figure shows how the double Y bandage is completed by fastening the arms of the Y to the tailpiece on the patient's opposite side. See page 124.

MONTHLY NURSING

BY

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PREFACE.

NURSING is a new profession, and marks a glorious advance in civilization. Like the profession it supplements, it naturally divides into specialties, chief among which will always be that of monthly nursing. In other sicknesses, members of the family can often nurse each other. In time of travail even the savage depends upon the help of other women; and in no other branch of improved nursing is there promise of greater blessing to the human race.

To the young doctor, fresh from his study of the science, the art of Midwifery is intelligible. Even if his memory fails him, his text-books and note-books are at hand to tell him the reason of every step. The student nurse, on the other hand, whether in maternity wards or in private service, lacks this great advantage. And yet her success, and

at times her patient's life, depend not upon her blind obedience to rules, nor yet entirely upon her common sense, but very largely upon her knowledge of the foundation principles of obstetrics.

In the following pages my aim has been to set forth these principles in the order the nurse will need them, and more fully than has been possible in the space devoted to this branch in the various excellent hand-books on general nursing. I have also tried to tell what kind of service the physician and the patient have the right to expect from the monthly nurse.

The book has grown out of a series of lectures given to the nurses at the Boston Lying-in Hospital, during my term of service there as house physician in 1883, and it is now published under the stimulus I find in teaching the nurses of the Waltham (Mass.) Training-School.

A. W.

January 1, 1886.

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MONTHLY NURSING.

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MONTHLY NURSING.

CHAPTER I.

PRELIMINARIES.

THE perfect nurse must be healthy. It is not enough that she once had an iron constitution, nor that she still has the power to brace up for any extra exertion: she must learn how to adapt herself to her work so that she never need shirk it. This is her first lesson. The chances are largely against any woman who as a monthly nurse expects her health to follow her, without some painstaking to that end. The life is so irregular that the bodily forces cannot naturally accustom themselves to it. So the nurse must help nature. The hardest problem is how to get enough sleep. It will never do to depend upon such time as can be spent in bed undisturbed. The nurse must learn to profit by cat-

naps. When it is impossible to get enough sleep even so, then other ways of refreshing the body must be tried. I know an old nurse who, after half a century of harder work than modern nurses often meet, freshens up each morning with a cold bath. Those who are tough enough may well try this plan. For most nurses, however, the dry rubbing from head to foot and a brisk walk in the early morning air will equally well and more safely make up for a broken night. In the matter of proper exercise it must be remembered that for real refreshment those muscles must be exercised which have not been tried by the day's work. Folly it is to try to strengthen tired back, legs, or arms by extra exercise of those muscles. But if the back alone is tired, to straighten up and walk, or if the legs and feet are tired from long standing, then to exercise the arms and chest, will really refresh the body. One matter remains: the body must be properly fed. Nurses are too often dyspeptics. And here it is that nature most needs help. Plain suitable food at regular intervals the nurse must have. It will never do to follow the fickle leading of the appetite.

Treat the body as if it were — as it is — a most delicately adjusted locomotive. If the machine is to do its best work, fuel must be carefully supplied, and the waste materials regularly removed.

The nurse's health ought to be jealously guarded not only for her own sake. Her influence in the sick-room depends largely upon her own physical condition. A sick nurse cannot so disguise her sickness that her patient will not suffer. Even if her nurse's ailment is not known and worried over, the patient will lose the invigoration that she needs, and would get from a hearty, healthy nurse.

The nurse must therefore keep well if possible, and at all odds appear well. No matter how wearied, when on duty she must appear fresh, and she must be as neat as wax from top to toe. This is no easy matter, and the greatest pains must be taken. In the midst of disorder it is natural to be disorderly; but it is the nurse's business to drive out all disorders. A slovenly nurse is hampered from the start. In beginning any clearance there must be a clean starting-point: if the nurse comes into the sick-

room as fresh as a morning-glory, it will be easy to set the room to rights, the patient will be almost impatient to be "fixed up," and the day will be well begun; while, on the other hand, a slouchy nurse will find it a long job to tidy up the room, and very likely her patient will beg off from the morning bath. A poor beginning! Again, in sickness ladies are very likely to be over-squeamish. Let there be a thumb-mark on the soup-plate, and no dinner will they taste. If the nurse herself is the least bit untidy, even so little that well persons would not notice the neglect, sick eyes will magnify it into a mountain. Let them therefore find no mole-hills.

Among the less important things which, nevertheless, go far to make the difference between a first-rate nurse and anything short of it, there is first the touch to be considered. The hands must be warm, and dry, and soft, as well as clean. This is not impossible. The constant soaking, to say nothing of the use of strong soaps and perhaps acids, will harden and roughen the hands so that the dirt will cling; but a little oil, or vaseline, thoroughly rubbed

into the skin when washing the hands, will make the cleansing easier and the skin soft and smooth. Never touch the patient with the finger tips. Some ladies would as lief feel a spider crawling over them. Take up the sponge or towel, not as if afraid of it, and always let the patient feel the whole hand. While leaning over the patient, do not talk: air that has been once breathed is never agreeable. Wear silent slippers. Felt soles are comfortable and trustworthy. Stiff-starched dresses and aprons will rustle in spite of one. Soft clothing for the nurse is a luxury for the patient. The most becoming dress, because the most suitable, is of Quaker plainness. The bosom should not be used as a pin-cushion; a much safer badge of office is the muslin cap.

Supposing the nurse ready for work, how is she to find it? She must first make a home, with friends if possible, where others in the house will know where she is, when she will return, and pretty much all about her. If a room has to be hired of strangers, great care must be taken; she may suddenly have to leave with all her possessions lying around; and,

most important of all, her home must be where she will not even have to think if the neighborhood is respectable. The residence chosen, if there is a registry for nurses at hand, the proper way is for the nurse to go there with her testimonials. Otherwise, she must call on the doctors. This purely business call must be short and to the point. If the doctor wants to know the nurse's ancestry, he can ask for it. What she has the right to tell him is simply her address, her price, and her references. It is a good plan to have all this plainly written or printed on a card, for the doctor's convenience. When nursing becomes the profession that it is growing to be, it will be proper for a new nurse to call also upon the established nurses in her chosen neighborhood. A nurse should cultivate the acquaintance of other trained nurses, should rejoice in their success, and never speak of their discomfiture.

The most trying calls the nurse has to make are upon ladies who wait to see her before engaging. This ordeal cannot be avoided. There is, however, one simple rule, which, if strictly obeyed, will make even a peasant at ease in the

presence of the queen, and that is *to be honest to one's self.* Affecting to be what one is not, is the root of all embarrassment. The nurse is not expected to be a society belle; she has greater honor; and if she will trust herself in the parlor as in the sick-room, she need not worry about her behavior. If she tries to show company manners, the lady has a right to smile. If the nurse is true to herself, she will have the lady's respect certainly, and probably her admiration. After all, it is a business call. There must be no mistake about the wages, nor about the date of the engagement. It must be settled also if the nurse is to report for duty upon that day, or to stay within call. In fairness the nurse should be engaged and paid for a definite time, and outside that time be entirely free; but there is no certainty for the lady herself, so it is only a proper kindness for the nurse to let her whereabouts be known to the lady for the time just preceding the engagement. If while at one place another engagement is offered, it is proper for the nurse to give her present employers the opportunity to prolong their engagement.

The nurse may be asked what materials will be wanted. Unless asked, she must never hint the need of anything till it is necessary in order to carry out the doctor's orders. Eve had no nurse even; and many women nowadays bear children with nothing prepared beforehand. It is the nurse's duty to make the best use of what is on hand. Still, if she is asked, she should be able to give the lady a list and a description of all the articles that belong in a well-furnished confinement chamber. The following list will serve as a basis. It is to be modified according to circumstances; so that no nurse who uses it need miss an engagement through terrifying the lady with its length.

For the Mother. — Four night-gowns, and four day-gowns, opening their length in front. Two dressing-sacques. Six binders, made of strong cotton, doubled, and, for the average-sized patient, forty inches long by eighteen wide. Two dozen napkins; if of cotton, the cloth should be soft, and thirty inches long by fifteen wide. The nicest napkin for the mother is made by putting a handful of absorbent cotton waste inside a diagonally folded piece of sun-gauze

eighteen inches square.[1] Napkins so made are softer, cooler, and more absorbent than any others. One dozen sheets; the older and poorer, the more suitable. One dozen pillow-cases. Blankets according to the season, but enough for two sets, so that one may be airing while the other is in use. Two rubber sheets. A bed-pan. Two tin basins. A feeding-cup. A foot tub. A small pot of vaseline. A small bottle of sweet oil. A bottle of brandy. A syringe of the Davidson or Fountain pattern, with rectal and vaginal nozzles.

For the Baby. — One hundred diapers, of old, thick or doubled, soft cloth. Six belly-bands, of flannel eighteen inches long by six wide, without hems. Six long-sleeved flannel or knitted worsted shirts. Six pinning blankets. Six night-gowns. Six pairs of socks, long enough to reach the knees. One dozen bibs. A

[1] Sun-gauze, or cheese-cloth as it may be called, can be bought by the piece. Twenty or even thirty yards will be none too much, especially if poultices are needed. The cotton waste prepared and sold by manufacturers of surgical supplies, is as clean as surgeon's cotton, and will be found very useful on the labor bed and in place of sponge or wash-cloth. A great advantage is that all so used can be burned, — a sanitary as well as a labor-saving procedure.

half-gross of large and one gross of small safety pins. In the baby's basket, besides the little soft brush, there should be a piece of the mildest white soap, and a powder-box, with oxide of zinc one part, starch seven parts. A soft sponge, soft towels, and some pieces of old soft linen.

The nurse should carry with her a rubber catheter, a graduated minim glass for medicine, a clinical thermometer, and a common thermometer suitable for testing the temperature of the chamber and of the bath.

As soon as the nurse is summoned to the house she should offer to arrange what material is at hand, so that she may know exactly what the house affords, and where everything is to be found when wanted.

No time is more trying to all parties than the days, and perhaps weeks, of waiting for the labor to begin. Then, if ever, is there opportunity for the nurse's tact. In consideration of the fact that she is receiving wages for, in reality, no service, it is only fair that the nurse should gladly help the lady wherever she can. She makes a great mistake if she stands on ceremony, and refuses to do anything outside her

own line. True, she is hired only to nurse a mother and baby; but in a higher sense she is in that house to make herself useful to the family where they most need help, and that she can take charge where no one but a nurse can does not unfit her for other womanly duties. If she is paid for being on hand, she must stay there, except for short absences for recreation, and then she must return punctually, or, better still, a little before the hour set. No lady will demand the nurse's whole time under such circumstances. Of course, it will be more comfortable for both lady and nurse if both show their willingness to oblige each other. At any rate, the nurse should show that spirit. The lady's physical condition excuses her for much; but it is the nurse's business always to be obliging.

The body is not the only object for the nurse's ministrations. No one can know much about sickness, or at least be worth much as a nurse, without recognizing that the mind is of more importance than the body. The mental condition must be considered: otherwise the nurse may be worse than useless. True as this is at

all times, especially is it so in these days of waiting. Much depends upon the woman's approaching her labor in a brave, quiet, and trustful spirit. It is frightfully wrong for the nurse at such times to recount the horrors of obstetrical operations. Such things, indeed, should never be recounted, except where such knowledge is necessary. But to a woman approaching or enduring confinement it is wickedly dangerous to allow her imagination such material. How is she to know that the awful experience, carelessly related, may not soon be her own?

The nurse who can read aloud acceptably can find no better way of diverting her patient's mind from present or imaginary suffering. It is not necessary to be an elocutionist. Quiet, natural reading is more suitable for the sick-room than is the forced style of the schools. And in this, as in other seemingly trifling matters, the nurse should spare no pains to perfect herself. It is in these small things that she must be most painstaking. Any one can learn to read aloud well, by constant trying to *tell* what is seen on the printed page, — to tell in

most pleasing voice and manner. Another and even more valuable accomplishment is story-telling. Nothing else is so beguiling; and the nurse who can lead her patient's fancy through green fields and lovely valleys can dispel the dreariness even of long, sleepless nights. On the other hand, there is the danger of talking too much. Silence is often the greatest blessing to the sick. The golden mean can be learned only by thinking of one's self in the patient's place.

While waiting for confinement to take place, the nurse should seek opportunity to find out from the physician at what time in the labor he prefers to be sent for. This is important, because doctors differ: some prefer to be called at the very beginning, others not till the labor is well advanced. The time for sending generally will be for the nurse to decide; so she must know how to suit all concerned.

If no orders are given for the care of the waiting patient, there are a few important matters for the nurse to look out for. The bowels must be kept open. If there is any diminution in the amount of urine, the fact

should be noted, and, if the daily amount is greatly diminished, the fact should be communicated to the physician. Serious suppression of the urine may be suspected, if there is any swelling of the face and hands. The danger in such cases is of convulsions. Flowing at any time during pregnancy is abnormal, and even a slight spot of blood may be the sign of great danger. Women generally take alarm at it, and send for the doctor. If the nurse is consulted, she should ask for the doctor's attendance.

The last work before labor begins in case a room is free for the purpose, and otherwise the first work after labor begins, is to make a room into a hospital. If there is any choice of rooms for this purpose, it is not to be forgotten that the woman's life may depend upon the room. She should have first choice. The largest, sunniest room is none too good. If there is an open fireplace, or even a chance to make one, that is rare good fortune. The next best thing is an open stove. This is desirable not so much for the cheer of it as for the sanitary effect. No other way of ventilating can equal the open

fire, which sucks in the cold air from the floor, and occasions a constant stream of fresh air into the room. It is often a vexatious problem to keep a room well aired and well warmed at the same time. Fresh air, without a draught, can be got by putting in the open window a frame covered with cloth of any kind. A board of just the window's width, upon which the lower sash can rest, will allow the air to enter between the sashes in an upward direction, thus avoiding a direct draught.

Any set basin in the room is to be looked upon with suspicion. Of course there is a remote possibility that it is built on the most approved sanitary plan; but the chances are large that it ventilates the soil pipe or sewer into the chamber. Better it is to go without the convenience of it than to run the least risk. By pasting paper over the entrances to both the bottom and the overflow waste pipes, the danger of poison from that source is averted. It is a misfortune if bath-room and water-closet open into the lying-in room. If accessible by any other door, then by all means erect a quarantine barrier. Lock the door, and paste strips

of paper over all the cracks between the door and lintel, jambs, and threshold.

All unnecessary furniture is to be removed from the room; and the mantel, the bureau-top, and the table are to be cleared of all bric-a-brac. A cot bed or a lounge for the nurse at night is needed; a stand, also, for the bedside. If there is any choice, the nurse who has once taken care of a patient on a low double bedstead need not be reminded of its discomfort to all concerned. The best lying-in bed is not more than three and a half feet wide, and stands not less than two and a half feet from the floor. A hard mattress is indispensable, and a wire-woven basis for it is a luxury. The bed is to be so placed in the room that it will be accessible on all sides, and so that the patient will not be dazzled by light from windows or fireplace. Most room will be needed on the right side of the bed. If everything needed is at hand, make up the bed by first spreading over the mattress a rubber cloth large enough to tuck under each side and to reach within a foot of the ends of the mattress. This cloth must lie smooth, and can be kept so if fastened with

safety-pins, at the corners, to the tick or mattress-cover. Over it the under sheet is spread, and tucked in all around. A second rubber cloth, inside a folded sheet, is then to be laid across the bed to serve as a draw sheet. On the right side it is not to be tucked under the mattress, but is to hang over both bed and bedstead. It may be kept in place by safety-pins, fastening its edges, at the sides of the bed, to the under sheet. One hair and one feather pillow are enough. The bed will then be ready for the upper sheet and blankets. Heavy counterpanes are bad, because they do not allow easy ventilation of the bed. An old rug, or something of the sort, to save the carpet, should be laid on the floor under the right side of the bed.

When the doctor's visit is soon expected, a basin of water, soap, nail-brush, towel, and vaseline should be at hand. Under the bed, within easy reach from the right side, should be two tin basins, a chamber vessel, a bed-pan, and a foot tub, or some such receptacle for the soiled cloths. At least a dozen napkins ought to be within easy reach. If cotton waste is to

be used, it should be separated into handfuls, and placed near the bed in a shallow basket. The brandy, feeding cup, and measuring glass may stand on some convenient shelf. Blunt pointed scissors for cutting, and suitable ligatures for tying the child's cord, it is the nurse's business to have ready. At least five ligatures, each a foot long, should be provided. There may be twins. Each cord needs two ligatures; and often one will break, or get wet and so be hard to tie. The best material is strong tape, a sixteenth of an inch wide. It should be strong at any rate. Fine twine is too apt to cut the cord. It will save time when the binder is being pinned on to have the safety pins in a pin-cushion, instead of in their original papers. Such little provisions, apparently unimportant in themselves, together make a vast difference in ease of management.

An abundant supply of disinfectants ought always to be provided. Unfortunately, it is still a matter of doubt what disinfectant it is best to use. The two in most common use are solutions of carbolic acid and of corrosive sublimate or the bichloride of mercury. Nurses

ought to know how to use either. Carbolic acid can best be bought in pound bottles of the crystals. The bottle should be kept in hot water till the crystals are melted. Then one ounce of water is to be added, and the mixture thoroughly shaken. This admixture of water will prevent recrystallization, and may be disregarded in making the weaker solutions of the acid. Recent investigations prove that the power of carbolic acid as a germ-killer has been overrated. It, however, serves an excellent purpose in preventing decomposition and putrefaction, and is therefore very useful in cleansing whatever is foul. A proper solution for such purpose may be made by thoroughly shaking six teaspoonfuls of the liquefied crystals in a pint of hot water. Great care must be had not to spatter the skin or one's clothes with the pure acid, as it burns badly. If such accident occurs, ammonia, or even strong soap, together with thorough washing with water, will hinder the acid's injurious action.

The disinfectant solutions of mercury bichloride are very much weaker. The substance itself is a white, easily powdered crystal, much

more soluble in alcohol than in water. A very convenient preparation of it is in the form of a compressed tablet (Wyeth's). One of these tablets dissolved in a pint of water makes a solution of one tenth of one per cent, or $\frac{1}{1000}$. No stronger need be used.

CHAPTER II.

CHILD-BEARING.

In the science of obstetrics, and in the common text-books, there is much that nurses never need know. And in general it may be said that only so much of the science as pertains to normal parturition need they study; for it is only in the natural and easy deliveries that the nurse is likely to have to take charge. It is important, then, that she should have sufficient knowledge, in the first place, to feel sure that the case is normal, and, secondly, what steps it is proper to take. Such knowledge can be thoroughly obtained only by those who know the anatomy of the parts of the body concerned in child-bearing, and also the general principles of human physiology. The latter can easily be learned in the small books upon the subject;

and the requisite knowledge of anatomy not so easily, but still by reasonable effort, can be learned from the first chapters in any of the larger text-books of obstetrics. It is well for the nurse to be familiar with the anatomical names of such points as can be seen or felt in the living subject. The description of the parts is not so important as the relations of the parts: that is, for instance, it is not so useful to know the fine points about the bones of the pelvis, as it is to know the position of the pelvis itself in the body.

This general knowledge of anatomy is necessary in order at all to understand the changes that take place in pregnancy; which, in turn, it is necessary to know in order to understand the recovery after parturition. As regards the development of the fœtus from the minute egg, the nurse really need know nothing, but there is nothing on earth more interesting. The main thing is to know all about the conditions at term before labor begins. Roughly speaking, the child is then floating in a closed membranous bag of fluid; the bag itself is partially attached to the womb in which it is enclosed; and at

this place of attachment, called the placenta, the child's blood, carried to and fro by the cord, receives from the mother's blood the needful food. The womb has risen from the bony pelvic cavity into the abdomen, the walls of which are of distensible muscle. With such a general idea to arrange further knowledge by, the nurse must dig away in the text-books. Everything depends upon knowing how to study. Discouraging it is to read great scientific books page after page: they should rather be used as dictionaries or encyclopædias. For instance, in the sketch just given, does the nurse understand what the placenta is? If not, then let her hunt it up in the index to any work on obstetrics. Do not leave the subject to look at interesting pictures, but read about the placenta. If unintelligible words are met, hunt them out in turn till the subject is mastered. Do not give it up in despair, but remember that the knowledge of these things is necessary to make a thoroughly intelligent nurse.

After all, it is only comparatively little that any one can know about these wonderful natural processes. We know how to induce labor, and

we know what takes place in labor, but no mortal knows just why natural labor begins. Before considering the labor, first think what is to be accomplished. The womb must open its closed and mucous-plugged mouth; or, in scientific phrase, the os uteri must dilate. The child must be driven by the muscular contractions of the uterine and abdominal walls down through the parturient canal, which, hemmed in by the pelvic bones, is so small that only by twisting and turning can the passage be made. It is a wonder that the process is not more perilous to the mother; and still more wonderful that the passenger survives.

It is not always easy to decide when labor begins. Sometimes the dull occasional pains of the last days insensibly become the regular pains of labor. More often, however, the woman feels better than for weeks before, and then the pains begin with a hard dull ache just below the small of the back. In a few seconds, perhaps, it is gone, and then in a few minutes it comes again. In a primipara (a woman with her first child) a few days before labor, the uterine tumor sinks in the abdominal cavity, the lower part,

indeed, sinking into the pelvis. This gives more room to the crowded viscera, and consequent ease to the woman. Another sign of approaching labor is the discharge of mucus, called the "show"; but this is often absent. A woman who has previously borne children generally has a good opinion of her own as to the nearness of her labor. Having had experience, she knows too much to be worried by false pains. True labor pains occur at regular intervals; and during the pains the uterus hardens. The nurse who forgets that does not deserve her cap.

Although the first stage of labor is the dilating of the os uteri, not seldom it happens that several hours elapse before any dilatation is apparent. The cervix is being taken up, as the doctor will say. The neck of the womb, which makes up half its length before pregnancy, and, just before labor begins, projects into the vagina like a large nipple, now gradually opens from the inside. The bag of membranes within serves as a wedge: when the uterus contracts, the liquor amnii, in which the fœtus floats, bulges the membranes into the opening cervix. If

the waters escape early in the first stage, this valuable wedge is lost. Dry labors are notoriously tedious. The dryness, however, may be from a more serious cause than the premature loss of the amniotic fluid: the lining of the whole canal may fail to secrete sufficient mucus, becoming hot and dry, and swollen.

It is a common mistake to suppose that rigidity of the cervix delays the labor. The fact is, that in a delayed labor the cervix is rigid, but the delay is caused either by faulty action of the uterus as a whole, or by some other obstacle to the child's descent. If the uterine muscles do their work properly, the os will open fast enough. These muscles are a meshwork of elastic fibres, differing from other muscle in retracting as well as contracting; that is, the fibres contract in a pain, and afterwards do not stretch quite to their former condition; their grip is tightened. This retraction takes place everywhere except in the lowest part, which must stretch more, instead of less, after successive pains, in order to allow the child's escape. As has been said, the bag of membranes, crowded down by the muscular

contractions of the upper part, the fundus, of the uterus, serves to open the cervix. In case the liquor amnii has escaped, the presenting part of the child serves the same purpose. If now anything prevents the child's being driven down into the pelvis, pressure is not brought to bear upon the lowest part of the uterus, and there is no inducing cause for dilatation of the os. Neither is there cause for dilatation unless the uterine contractions are sufficiently strong.

The first stage of labor ends with the dilatation of the os uteri. The second stage ends with the child's birth. In describing the mechanism of delivery, it is first necessary to fix upon some points in the child as landmarks, and to discuss the different positions which the child may have in the mother. The back of the head, the occiput, is the principal landmark. According as the occiput is in the right or left side of the mother, the position is said to be right or left. The position is anterior or posterior, as the child's occiput is to the mother's front or back. If, as very seldom happens, instead of the occiput, the child's face first presents itself, then the chin is the land-

mark, which similarly may be in the right or left, back or front. Less rarely the breech of the child presents itself, and then the sacrum is the landmark. There are thus four quarters of the mother in which the child's body may be said to be: the left anterior, the right anterior, the right posterior, and the left posterior.

The position can be well guessed after external examination. Thus, if the child's back is in the mother's right, then on that side the uterine tumor is evenly hard and round, while on the left the pressing hand can often feel the child's limbs, and at least the unevenness of the mass. By listening with the ear applied to the mother's abdomen, the child's heart often can be heard, and loudest on the side where the child's back is next the abdominal walls. But the position cannot surely be determined except by internal examination. Even so, it is not seldom a very puzzling thing. Fortunately for the nurse, in order to manage normal cases in the doctor's absence, she need know only this much about the position, — whether it is right or left.

The presentation the nurse must know all about. Any part of the child may present.

More than nine times out of ten the occiput presents, or first descends, and more commonly than anywhere else the occiput is in the mother's left front. Supposing this the presentation and position, let us now imagine the process of the child's delivery. The child and the mother are so proportioned that only in certain ways can the birth take place. Thus, on account of the oval shape of the pelvic cavity, which at the brim has its long diameter from side to side, and at the outlet has its long diameter from front to back, the child's head in descent must so rotate that its long diameter shall only at the last come into the antero-posterior diameter of the mother's pelvis. This rotation of the child is hard to understand; but it is not difficult to remember that, whatever the first position of the child, its head to be born must so turn as to have its length in the long front-to-back diameter of the pelvic outlet. The important fact to remember is, that this necessary rotation normally takes place only when the child's head is flexed upon its body, so that the chin rests upon the chest.

Labor is often thus delayed, by incomplete

flexion of the head. The accoucheur, by resisting the descent of the forehead, often can completely flex the head, and so hasten the birth. A partially flexed head, however, delays the labor for another reason. Even if the parturient canal were a perfectly round tube, the child's head could be driven through only with its long diameter in the tube's axis. Now it is easy to see that the child's head, if held erect upon its body, would not pass through nearly so small a tube as it would if flexed; that is, the diameter from the crown to the chin is much longer than that from the nape of the neck to the forehead. At best there is no spare room for the child in the mother's pelvis; and every twist and turn is taken advantage of, so that the greatest diameters of the child shall in succession pass through the widest diameters of the canal. After the head is born, this is again exemplified in the rotation of the body so that the width of the shoulders, and then of the hips, may be born through the long antero-posterior diameter of the outlet. It is here that knowledge of the original position of the child is sometimes necessary. For in this body-

rotation the body reverts to the position it was in before the head rotated for its own passage. Therefore, if for any reason after the head is born the delivery must be hastened, the artificial rotation of the child must be in the same direction that would naturally be taken. Thus, if the child's back originally was in the mother's right, when the head is born, and does not turn either way, then, to aid nature, the child's back must be turned to the mother's right in extracting the child.

It will be noticed during the second-stage pains that the woman holds her breath, seeks to brace her feet, and pulls with her arms whatever she can clutch. This means that, in addition to the uterine muscular contraction, other muscles are at work; namely, the muscles of the abdominal walls. The breath is held, the feet are braced and the pulling is done simply to give these abdominal muscles fixed points to work from. Instead of passively bulging out any longer, their endurance is past, and, as if in resentment for the long, weary months of stretching, they now straighten with a force that crowds the child into and through the pelvis.

The axis of the passage is not straight, but curved; the child is not shot out as from a gun, but has to move in a small circle, so that as born it nearly comes into its former position. This it is of vast importance to remember whenever assistance is given by pulling what the mother is pushing; the child must then be drawn in this curved direction upwards on to the mother's abdomen. If the natural direction of the birth is not thus followed, that part of the parturient canal which is not fortified by bones will surely suffer laceration. As the child's head meets the perinæum, that part stretches so as to prolong the curved canal. An elastic resistance is thus offered, which causes the rotation already mentioned, by shunting the lowest part of the child's head forward under the pubic arch, where the opening vulva offers less resistance. The head then is born by the neck bending backwards, the forehead, face, and chin successively passing the perinæum. At no other time in normal labor is skilled assistance so valuable, and bungling so disastrous; and as it is in precipitate labors, where the nurse is most liable to have charge, that the

perinæum is especially endangered, it needs not the telling that the reasons for the steps then to be taken must be thoroughly learned. The main way to help at this time is to hold back the advancing head, to allow the perinæum more time for distention. This holding back eases the mother; the pressure, instead of being upon her, is then upon the accoucheur, and it is the pressure of the child upon the soft parts of the mother that hurts her. This pain forces the woman to the tremendous exertions necessary for the child's expulsion. Just as pain in the toe will cause involuntary contraction in the leg muscles, so it is in this case, and the worse the pain, the stronger are the muscular contractions. In both cases the contractions are nature's way of getting rid of the pain. Holding back the child's head, therefore, also helps matters, by lessening the pain, and so slacking the involuntary muscular efforts. In this second stage of labor voluntary muscles are also at work, the action of which the woman can stop if she chooses to mind the accoucheur's warning. The more important it is to delay, the harder it generally is to hold back.

As the doctor's assistant in the more difficult cases of labor, the nurse has important duties to perform, which will be treated later. It is now desired to present only an outline of what a nurse should know about child-bearing in order intelligently to act as midwife in the doctor's absence. It is not necessary for her to know about the complications which retard labor, for in such cases she will not be responsible; and besides a general knowledge of the normal process, she need know only the modifications liable in hasty labors.

The typical labor is not very common. In women who have borne children often, the parts generally offer little resistance; the child is born easily, and without going through the various motions seen in a typical case. The face is sometimes born from under the pubic arch, having rotated to the front, instead of the occiput having done so, as is common. The face may itself present, and then, to be born alive, the child's chin must rotate to the front. Breech presentations include all cases where the body is born before the head. The mechanism of such labor is almost the same as in cases

of head presentation. The body is born with its width in the antero-posterior diameter, one hip passing the perinæum as the other emerges from the arch. In the same way the shoulders are born. The body then rotates, the back of the child coming to the mother's front. Finally, the head flexes out. The two last points, if forgotten, may cost the child's life. For in managing a breech case, if the nurse finds the cord, as born, ceasing to pulsate, she must then extract the child as best she can; if now the child's belly is allowed to rotate forwards, its chin will hook on the pubic arch, and there it will hang. Again, if the rotation is all right, but the after-coming head is allowed to extend, then the chances are against the child. In no emergency does the child's life depend more entirely upon the accoucheur's knowledge, than it does in a breech case where the pressure upon the cord is suffocating the child.

The third stage of labor is the expulsion of the placenta. This may occur with the birth of the child, or not for days or weeks. Except for the liability of hemorrhage, which can be controlled only by emptying the uterus, study

of the third stage might be omitted by the student nurse. The doctor could hardly fail to arrive in time to look out for that. But because the nurse may at some time be obliged to extract the placenta, and so forcibly terminate this last stage, she must understand all about nature's way of doing.

For a few minutes after the last mighty efforts of expulsion, the mother naturally rests. The pressure of the placenta inside the uterus sooner or later provokes that organ into contractions like those of the first and second stages. After the foreign body reaches the vagina, then the abdominal muscles are called upon to expel it.

The detachment of the placenta from the uterine wall cannot take place before the child is born without endangering its life. Till the child's lungs can work, its blood must go to the mother's blood for oxygen, without which, for the unborn babe as for us, life can last but a few minutes. The two bloods do not mingle. In spite of the common notion, not a single drop of parental blood ever enters the child's veins. The placenta is almost wholly of fœtal

origin. Just a very thin layer on the mother's side of it belongs to the uterus, and in that layer the separation takes place. There is an inevitable tearing of the maternal blood-vessels. In a normal case, this tearing is so timed that the torn vessels are at once closed by the uterine contractions. If the separation occurs before the uterus can empty itself, and so squeeze together the walls of the open vessels, then there is hemorrhage. This is inevitable in case of placenta prævia, where the attachment is in that part of the uterus which must stretch to allow dilatation of the os uteri. On the other hand, the placenta may be so adherent to the uterus that only artificially, or by the slow process of sloughing, can it be removed.

CHAPTER III.

THE FIRST STAGE.

As soon as labor begins, the doctor is to be informed. He may not be needed, and he may have told the nurse, or the lady herself, that he does not care to come till the labor is well advanced; but it is proper to inform him at the beginning. The responsibility is thus put where it belongs, and, besides, the doctor is enabled to arrange his work. A nurse should know enough never to send peremptorily for the doctor when there is no immediate necessity. A simple summons is peremptory. So a note should be sent, or a trustworthy messenger, to state the exact conditions. The nurse's opinions, unless asked for, should never be given. It is her duty to inform the doctor that there is some ante-partum flowing, for

instance, or that the uterine tumor bulges sideways, provided, of course, such be the case; but it is not her business to suspect aloud that it is a case of placenta prævia, or a transverse position of the child.

The woman must be so dressed that her outside clothing can be instantly removed. A gauze vest may well be worn. The night-dress is to be folded up from the bottom and securely pinned up under the arms. A thick sheet or old thin blanket, folded over a belt, is to be worn as a skirt: the belt must unfasten, and the skirt must be open on the right side. It is well to support the weight of this skirt by fastening it to the night-dress. Warm stockings, comfortable slippers, and a wrapper are needed, if the woman pleases to walk about the room. In all cases, a napkin amply large must be worn, care being taken that its girdle is wide, and not too tight.

No definite rule can be given about putting the woman to bed. When she is tired and wants to rest, it is certainly wrong to urge her to walk about. On the other hand, the longer she keeps up, the shorter her labor will seem

to her, and the upright position favors the child's descent. There is no reason why she should not often change her position. To let her do about as she pleases is, after all, only letting her follow nature's lead, which is always the safest general rule. It is not right, however, to let her strain herself during the pains, as she is so only uselessly tiring muscles the best work of which she will need later. And, indeed, the great principle of management must be to secure as much rest as possible for a woman in the first stage of labor, and to save every particle of her strength. Nor is it her muscular strength alone that needs conserving: her nervous strength is even more precious. It is to be remembered that it is not possible for the woman in this stage of her labor to help matters even in the very least by any exertion whatsoever. If she can sleep between her pains, nothing else is such a blessing; and the nurse will never find a better chance for learning that the worst possible way of securing sleep for her patient is to advise her to go to sleep. Such advice would provoke a saint into wakefulness. Again, if, after

quieting the household and stilling the chamber into semblance of night, sleep between pains is fortunately obtained, then only a fool would spoil it all by maliciously telling the poor laboring woman that she is awake only one minute of the passing five. For to her those wakeful minutes are weary hours, and of the sweet snatches of sleep she may be entirely unconscious.

Some time during the first stage, and perhaps the earlier the better, the lower bowel should be thoroughly emptied by a full enema of water. No matter if the woman's bowels have been regular, or even loose, this washing out should never be omitted. If not given, the pelvic capacity may be diminished by fæces in the rectum. This is the main danger. During the second stage, the contents of the rectum can be discharged only in small amount at a time, which is distressing to the patient and annoying to her attendants. Enemata may be given either to soften the fæcal matter or to provoke muscular contractions of the large intestine. For the first purpose tepid suds may be given, or oil and water in the proportion of an ounce

to the pint. The oil will float up to the obstructing fæces and soften the mass. Tepid water can be retained much longer than cold. In order to provoke an immediate discharge, cold water should therefore be used. There is no definite rule about the amount to be given. If two pints, or even three pints, is not enough, then let the amount be doubled; no harm can result provided the injection be made slowly, and stopped when painful. Remember to warm the nozzle and to smear with vaseline, and then to make it, after entering, follow the direction of the rectum, backwards and to the left.

The enema should be given immediately after a pain, as it will rarely be retained longer than the interval between pains. That this time may be as long as possible, when all is ready, wait for a pain and begin the injection immediately after. On no account is a woman in labor to go to the water-closet. There is always the danger of precipitation. The child may be born during the straining at stool. A sick-chair or some substitute in the confinement chamber is therefore indispensable. It

hardly need be said, that the vessel as soon as used must be emptied. Covers are wretched makeshifts. The vessel may be needed the next minute, or not for a fortnight. That makes no difference. It is to be emptied, washed, and dried at once. Before using, a little water is to be poured into it. Toilette paper is entirely out of place at such times. Washing and then drying the parts by pressure is the only proper way of managing.

In the matter of making internal examinations of the patient, it is to be borne in mind that the nurse is the doctor's lieutenant. In his absence it is her duty to keep track of the case, as can be done only by such examinations. Even if the doctor is at hand, he will probably be glad to depend more or less upon the nurse's accounts of progress made. It is highly important, therefore, to gain the patient's confidence and willingness at the start. She needs to be freely told the reasons why the disagreeable process must be endured. If the nurse affects superior wisdom, and attempts mysterious conversation with the doctor, she will have the patient's distrust and dislike.

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Satisfactory examinations cannot be made unless the patient is in proper position. Often the os uteri is so far back and so high up that it is almost out of the finger's reach. So every advantage of position must be taken. The axis of the uterus is about at right angles with that of the vagina; and as it is only with the front or ball of the finger that one can feel accurately, the finger must be inserted with its back and front corresponding to the woman's back and front. For it is the cervix, the os, or the descending contents of the uterus, that is to be felt. This can be done sometimes when the woman is on her back. Often it is impossible in that position. The best position of the patient is on her left side, with hips well to the edge of the bed and the legs drawn up. It is then necessary for the examiner either to lean over the patient, or to crouch down below the bed level, in order to bring the index finger of the right hand into proper position. Considerable may be gained by carrying the perinæum (between the examining finger and the outside fingers) as far as possible backwards, before reaching for the

touch. Use plenty of vaseline or oil. Enter slowly and withdraw slowly. It is well to begin the examination in an interval between the pains, and to continue it through at least one pain. During the pain, however, the finger must be held still. Sometimes it is easier for the patient, as well as for the examiner, if two fingers are used. In this way the extra length of the second finger is gained.

Before examining, the nurse must make up her mind what information is wanted. In the first place, What is the size of the os uteri? It is not enough to say that it is partly open. Its size must be compared to some familiar object, as a dime or dollar. At first it is customary to note when it will admit the finger tip. In all cases the time, as well as the results of the examination, should be remembered. A still better plan is to write down these points for the doctor's benefit. As the os dilates, it grows harder to describe its size. Care must be taken while following the edge not to push the uterine walls over the child's head, and thus describe a circle much larger than the os. In every case, get a definite idea regarding the size; for the

rate of the dilatation is of most importance, and this can be determined only by comparing the size of the os with what it was before. The examining finger should also take account of the condition of the cervix, feeling to find if it be loose and elastic or hard and wiry. These points are useful in estimating the probable duration of this stage.

When the doctor has charge of the case, the nurse need not bother about the presentation. Because of her liability to have charge, she should, however, lose no opportunity of determining the presentation, and also the position. This can often be done by external examination. By internal examination there is no surety until the finger can enter the uterus. The head can be recognized by its hardness, and by its fontanelles and sutures, which interrupt the smooth, hard surface either as soft places or as ridges. The position of the child, if the head presents, can be made out by recognizing the back and the front fontanelles. It will thus appear in what diameter of the mother's pelvis the median line of the child's head lies. Generally, only the posterior fonta-

nelle can be felt, and it can be recognized only by the fact that three sutures run out of it. The anterior fontanelle has four sutures. That is, one fontanelle is where three bones fail to meet, and the other is where four bones will meet if the child lives a year or two longer. If the anterior and larger fontanelle cannot be felt, the nurse, on the whole, may be glad of it, for then the head is well flexed. If, on the other hand, only the anterior fontanelle can be felt, there is trouble. If both can be felt with equal ease, there is still the danger of incomplete flexion. Having made out the head, and recognized the small posterior fontanelle with its three sutures, the nurse can assure the family that the presentation and position are all right. Unless perfectly sure of this, she must never pretend to give any assurance.

The doctor may leave the patient in the nurse's charge, with instructions to send for him if anything happens. The doctor will then be depending upon the nurse's knowledge of what is ordinary and what is extraordinary in labor. So far as the presentation is

concerned, if any other part of the child than the vertex of the head presents, the doctor's presence is needed.

Besides the size of the os uteri, the presentation, and the position, there is to be noted, while examining by the vagina, the condition of the membranes, whether intact or ruptured. Usually, when the membranes rupture, the liquor amnii escapes in considerable amount. At such times examination must be made at once, to see if the cord is washed down by the flood. If so, the doctor must be brought as soon as possible. But sometimes the escape of the waters is so gradual that the time of the rupturing of the membranes is not noticed. On examination, if intact, the membranes will bulge out during a pain. They are often so thin that they cannot be distinctly felt between the finger and the child's scalp, but if present there is a smoothness very different from the baby's unhooded head. The frequency of the examinations will depend altogether upon circumstances. Every hour is often enough generally. There is the danger of bothering the woman unnecessarily, and there is also the danger of

allowing complications to obtain which might at the outset be avoided. The former is the greater danger.

Before examining a parturient woman by the vagina, it is of vital importance that the examiner is absolutely clean, — clean not only to the eye, but so clean that even with the microscope no particle of dirt could be found under the nails or in the valleys of the skin. If modern theories are true, the most dreaded of all childbed diseases comes from dirt. The foul seeds of septicæmia may float in the air, a thousand times smaller than the smallest object visible to the naked eye. They may lie hidden in the woman's own body, ready to snatch her life. Certain it is that sometimes they are planted in the doomed woman by the attendant's own hands. So difficult is it to rid one's self of the poisonous germs, that, after exposure, as in the care of a septicæmic patient, it is held by some that one is morally bound not to pass at once to the care of a woman in childbed. The diseases to be specially guarded against are erysipelas, diphtheria, all eruptive fevers, and septicæmia in surgical as well as puerperal cases.

After contact with such patients, without especial care to disinfect one's self, there is no question that it is criminally careless to attend a woman in childbirth. Soap and water cannot be depended upon to produce the necessary cleanliness. The germ of disease is supposed to be a living, organized body, which can be killed only by roasting, boiling, or poisoning. Clothing, instruments, and utensils can be subjected to heat sufficient to kill the disease germs. Our own bodies can be cleaned only by washing thoroughly with some poisonous (i. e. disinfectant) solution. And always just before examining by the vagina, the hand and wrist should be thoroughly scrubbed with such a solution, in order to send the germicide into every crevice of the skin. If the skin is cracked or abraded, collodion should be applied till a firm coat is obtained. This precaution should always be taken by the nurse, from beginning to end of the confinement. The scrubbing of the hands must be done each time before examining, because there may be something in the room, handled in the mean time, which is infected with the horrible germs.

There is no telling where they may be lurking; and it is the examiner's solemn duty to make sure they are not carried up into the vagina. The slight lacerations of the cervix, the vaginal walls, or the perinæum, which alone are of little consequence, offer fatally easy chance for the poison to be absorbed into the system.

Cleanliness is therefore of exceeding importance. And not only after delivery: the rule applies with all its force to the time of the labor itself. Soiled material must be at once removed, and only cleanest cloths brought near the vulva. Occasional sponging of the nates and thighs with a disinfectant solution, and then wiping dry, adds to the comfort of the patient's mind. A real sponge is not to be used, unless it can be thrown away after once using. Antiseptic cotton waste is just the thing for both sponge and towel.

The single rule with regard to the diet of women in labor is to give them only liquid food. Nothing is better for them than iced milk, which assuages thirst and nourishes. Solid food is prohibited, because of the liability a laboring woman is always under of having to

take an anæsthetic. Vomiting of solid food during anæsthesia may suffocate the patient. It is seldom necessary to urge food. If, however, the labor is long and the woman is fagging out, a bowl of gruel does good service. Alcohol in any of its forms is to be regarded as a medicine which is not to be given without the physician's orders, except in emergency.

Nausea with vomiting is not unlikely to occur, and means nothing abnormal, during the first stage of labor. To the patient this may seem provoked by what food is given. It is then well to change from milk to gruel, or *vice versa*. Ice-cold liquids are least liable to nauseate. When the patient vomits, it is not enough to throw a towel at her, nor even to hold a basin. Her forehead must be supported by the hand; water for rinsing the mouth must be given; and as soon as possible a clean basin must be substituted. Trifles such things may be, but their observance makes a vast difference. The amenities of the sick-chamber are the nurse's imperative obligations. She must not forget her patient's personal appearance. The more forlorn the woman appears,

the worse off she will think she is, — which amounts to being so. Her hair ought to be brushed back from her face, and braided. Her lips, if parched, should be anointed. And the perspiration should frequently be wiped off face and hands, first with a dampened, and then with a soft dry towel. Fanning may be grateful; or, sometimes, when there is nervous shivering, warm shawls, rather, are comfortable.

As the first stage draws to its end, the woman should be urged to take the bed. One of the proper manœuvres at this time is to catheterize. This is simply a precautionary measure. There is a chance that the bladder is distended, a chance that is in no wise lessened by the woman's having passed water frequently during preceding hours. Now a full bladder endangers rupture of its wall, a vesico-vaginal fistula, as it is called. For this reason it is always well to insure the emptying of the bladder, which can be done only by catheterizing. The only drawback to this rule is the danger to the woman of bladder-inflammation incited by this process. Nothing is more distressing than cystitis. Terrible pain, an almost incessant

desire, and yet no power, to micturate, and perhaps long-continued necessity for having the urine artificially drawn, — these consequences, to say nothing of the more serious danger of the inflammation extending to the kidneys, would surely seem to bar out the use of the catheter merely as a precautionary measure. But the dangers are avoidable. If the catheter is perfectly clean, and properly used, there is no danger. Most thorough washing, and scalding, and disinfecting with carbolic acid solutions, — never omitting most thorough rinsing after using the acid, — undoubtedly will cleanse it; but the surest way is to buy a new one for every case. If possible, the doctor is to be consulted before catheterizing. The chances are that he will be relieved to know that the nurse has a new hard-rubber (male) catheter, and knows how to use it. If any smallest drop of the vaginal secretions is carried up into the bladder, the dreaded results may follow. The parts that the instrument may touch before entering the urethra must therefore be carefully washed just beforehand. It is so highly important that the catheter should not by mistake first be

passed into the vagina, — which, if the operation is attempted by touch, is so likely to happen, — that in every case the parts should be exposed to full light. The left second finger should then be so held in the vagina that the cord-like urethra can be felt along the finger's front. Thus placed, the finger will guard the catheter from slipping into the vagina, and, if used as a director, will guide the instrument into the urethra. If the meatus urinarius cannot be seen, as often happens in the second stage of labor, because drawn upwards, then the sense of touch must suffice. It feels like the tip of the nose, the orifice of the urethra corresponding to the space between the nasal cartilages. The catheter must be well vaselined along its length. It is to be inserted slowly and steadily, but never forcibly. The bladder may be pushed far up to one side, so that the catheter should be inserted nearly its length. If the bladder is in place, the catheter will curl up. When the flow of urine ceases, withdraw only partially: a fresh amount may thus be gained. The withdrawal is to be neither tedious nor abrupt. In all cases the urine thus drawn is to be saved

until labor is completed. The doctor may desire to examine it.

When the os uteri has fully dilated, the cervix and the vagina offer a continuous canal, with hardly a ridge to show where the uterus ends and the vaginal walls begin. Not seldom, however, the pains become expulsive in character, and drive the child well down into the pelvis, before the os uteri is sufficiently dilated to allow the head to escape. The anterior lip of the cervix is thus pressed down, and may get so jammed between the child's head and the pubic arch as to retard the labor, and even to receive severe injury. To prevent this, it is proper to oppose its descent by placing the fingers on the child's head in such way that the balls of the fingers meet the anterior lip of the cervix. During the pains, if the fingers are held firm, the head will slip down under the anterior lip, and the first stage will be over.

CHAPTER IV.

THE SECOND STAGE.

THE best assistants are those who themselves are able to take charge. The nurses who will best assist the accoucheur while delivering are they who can themselves serve as midwives, knowing the reason for every step that is taken. The nurse's duties at this time supplement the doctor's service. She must understand what he is about. Besides, she is liable to have to do without the doctor. In the country it is often the determining reason for engaging a trained nurse, that, in case of delay in procuring a physician, there may be some one on hand who knows just what to do.

In a preceding chapter the natural process was summarized. Let us now consider what assistance may be given. The fact is never to

be forgotten, that nine times out of ten no assistance is needed. The chances are very great that the child will be born in spite of seeming impossibility, and if left quite alone the chances for both mother and child are far better than under ignorant management. Indeed, childbirth offers a rare opportunity for ignorance to stand aside.

All preparations for receiving the baby must be made at least as soon as the second stage begins. Perhaps a few pains will end it. Half a pail of cold water, and half a pail of hot water covered with a rug to keep in its heat, a bowl of ice in lumps the size of a hen's egg, and an old blanket for the baby, must be close at hand. The syringe is to be tried to see if it is in working order. When wanted to stop a hemorrhage, it is no joke to have to change the valves in the Davidson syringe, both of which, by the way, must point away from the nozzle.

The woman must not leave her bed. The bed-pan may have to be tried to satisfy her, but she is to be assured that the desire to defecate is from pressure outside the rectum, which will continue till the child is born. Some foot-

brace will be acceptable, as well as useful; a box against the footboard will do very well. It must be large enough to afford a brace when the legs are drawn partly up. Something must also be given for the woman to pull upon. For this purpose a strap of towels knotted together, hitched to the bedstead at the woman's left, and just long enough for her to reach, is a good arrangement. But a vastly better support can be given by another person's hands. This is a good way to utilize the husband, if he pleases to stand by. The advantage of a living support to haul on is, that in the last throes, when the doctor could hardly make the woman stop violent expulsive action, it is easy to tell the one who is holding her hands to slacken. This of course accomplishes the desired result.

Another time-honored expedient for helping on the labor is to press the small of the woman's back, or to draw on a towel that passes under her back. As this is so generally done, it is fitting to discuss its advantages. What is the effect of such pressure? Possibly in the first stage it counteracts upon the aching nerves which lead up from the cervix and lower

parts of the uterus into the tube of the spinal column. Pressure upon a nerve trunk may intercept its message of pain. But this is only a probable explanation of the comfort afforded by pressing or rubbing the woman's back in the first stage, and no better reason is known. In the second stage, however, pressure upon the small of the back, or rather just below, moves the sacrum. This bone of itself moves some during labor. It is so hinged that by its motion the inlet or the outlet of the pelvis enlarges, according as the top of the bone is tilted backwards or forwards. Now in pressing this movable bone it is of course highly important so to direct the pressure that the entrance to the pelvis shall be opened when the child enters, and that the outlet shall be opened when the child escapes. Ignorant pressure may be much worse than nothing. The long and short of it is this. When the child's head is entering the pelvis, whatever pressure is employed must be at the bottom of the sacrum in order to tilt the top of the bone back. And later, when the child's head is passing out of the pelvis, the pressure must be directed higher up, at the top

of the bone, to press that in and the bottom of the bone out or backwards. In still plainer words, if pressure is employed, at the beginning of the second stage, press on the lowest part of the backbone; and towards the end of labor, press on the back at the level of the hips. The importance of this practice is no doubt overrated. Like many other expedients, it sometimes may seem of great help.

Another means of comforting, if not of directly helping the patient, is to apply heat to the vulva, perinæum, and surrounding parts. The heat relaxes the tension of the stretched tissues. This is especially comforting immediately after a pain, and can well be done by gentle pressure with several thicknesses of cloth just wrung out of hot water. There is also the advantage of thus keeping the parts clean.

The duration of the second stage is even more variable than that of the first, — being longer or shorter according as the woman is a primipara or multipara, as the pelvis is small or large, as her nervous and muscular strength fails or suffices, and also according to the size of the child. Examinations have to be made

more frequently than in the first stage, and as the child approaches the perinæum almost constant watch has to be kept. The nearer the labor is to its end, the more the woman must be kept well in hand. It is just as easy, and much safer, for her to stay on the right side of the bed. Ability to help at the critical moments of the delivery depends largely upon the position of the accoucheur and of the patient. There are several methods. The following seems to me to be the best. The woman lies on her left side, with hips almost at the edge of the right side of the bed, and with knees drawn up half-way. Her head and shoulders are towards the middle of the bed. The accoucheur sits on the edge of the bed, with the left side against the woman's back, and with the left elbow in front of the woman's abdomen. The left hand passes between the woman's thighs, and can interlock fingers with the right when there is need to hold back vigorously the child's advancing head. In the intervals of pains, when desirable to deliver the head, much help can be obtained by pressing the woman's abdomen with the left elbow, as

in bagpipe playing, except that in this case the pressure is to be steady. The salvation of the perinæum depends very much upon prevention of delivery during a pain. This is a remarkable departure of art from the natural course, where delivery occurs in the very height of a pain, and often it requires of the accoucheur no little strength to prevent a forcible expulsion of the child's head. Resistance must be applied to the head itself, and not to the bulging perinæum. This is one part of the manœuvre to save the perinæum, by giving it a longer time to distend. Another and equally necessary part is to effect the delivery in the interval between pains. Pressure above, through the abdominal walls, will help; but the surest way is to hook the head out by means of the right fore-finger in the rectum pressed under the child's chin. Whether so, or in natural expulsion, the head must be pushed snug up to the pubic arch, to relieve the perinæum as much as possible.

As the head is about to be born, it must never be forgotten to remove the foot-brace and the pulling-strap, and to instruct the woman to breathe rapidly. Otherwise, at the

critical moment, in her supreme agony, she will hold her breath and give a mighty strain that nothing can withstand. It is best to instruct the woman beforehand, that, at the command "Breathe out," she is to pant. Her abdominal muscles are thus deprived of an immovable thorax, which amounts to slackening their action.

Although the head seems the part of the child of most account in the delivery, the child is by no means born, nor is the woman by any means freed from danger, when the head alone has safely emerged. The first thing to do is to see if the cord is caught around the child's neck. If so, the attempt must be made to loosen and slip the coil over the head, from the back forwards, as this is easier than to keep lifting the coil up over the stairs of chin, mouth, nose, and brows. A slow and strong pull may be given, first in one direction and then in the other; and if this will not loosen the cord enough to let it slip over the head, an effort must be made to slip the coil back over one shoulder. Both of these attempts failing, the coil must be held in the fingers, to make sure that the circulation in it is unimpeded. If its

pulsation stops, the cord is to be cut, without attempting to ligature it, and the child delivered as quickly as possible by pulling with the fingers hooked in the child's armpits. Meanwhile the cut ends of the cord may be held by the assistant, to prevent loss of blood, till a ligature can be applied.

In unassisted labor, the head is most likely to do mischief to the perinæum; but where assistance is given, the danger to the perinæum is greatest during the delivery of the shoulders. This is partly because the head hides the perinæum, and largely because the attendant carelessly acts as if all danger of laceration ceased when the head was born. The threatening strain upon the perinæum can be in large part removed by extricating the arm next it, before allowing the birth of more than the head and neck of the child. This can safely be done by passing the hand into the vagina, and sweeping out the child's arm across its chest. It is easier said than done, yet it is an entirely safe and feasible procedure. The perinæum is not hurt by the inward pressure of the entering hand, nor is the child's arm hurt provided it be seized

as far down as the elbow. No traction is ever to be made upon the child's neck. If the birth of the body must be hastened, traction may be made by one's fingers hooked under the arms. In extricating the arm before the shoulders have rotated into the antero-posterior diameter, there may be doubt which is the perinæal arm. It is not very important to know, for with either arm extricated the strain on the perinæum is lessened; and, indeed, it is sometimes well to deliver both arms before the body. But because of the projecting shoulder, which so directly threatens the perinæum, it is desirable to deliver the perinæal arm first; and it is necessary only to keep in mind the original position of the child to know which arm that will be. If the position was left, the child's occiput will rotate back to the left after the head is born, and the child's left shoulder — or if the position was right, the child's right shoulder — will rest on the perinæum. This extrication of an arm of course tends to rotate the body. So it is both easier and more of a help not to mistake the arm that will naturally rotate to the perinæum:

it is better to aid than to hinder the natural rotation.

During the delivery of the body, as well as during the delivery of the head, the perinæum must be relieved by holding the child well up under the pubic arch. The child must continue to move in the direction of the pelvic axis, which carries the child up on to the mother's abdomen. The accoucheur in the position already recommended can with the left hand easily so draw the child forwards, between the mother's thighs.

The foregoing directions are for the one in charge of the delivery, — for the nurse in the doctor's absence. Let us now consider the nurse's duties proper, as the doctor's assistant. That she must be quick to anticipate the doctor's orders and demands goes without the saying. If, for instance, the doctor asks for brandy for the patient, it is to be brought instantly. There may be no immediate need. The nurse does not know. The doctor's quiet order is no sign that the need is not imperative. It is not necessary to rush wildly, kicking the bedpost, and tipping over stray chairs, but

instant obedience is of great importance. In battle the general must not have to calculate on any delay in obeying his orders, nor in the crisis of child-birth is it safe so to hamper the one in command. The strictest military discipline is not too much where life is endangered. No real nurse will talk at such a time. Her business is to listen. Standing at the other side of the bed, holding the straining woman's hands and doing for her all possible kindly offices, probably her first opportunity to help the doctor will be in holding up the patient's right knee. Besides relieving him of the weight of the thigh and giving him more working-room, the patient is also relieved by the nurse's holding up the knee, as she otherwise would herself do. If the nurse has to leave the bedside for other service, a pillow folded double and placed between the woman's knees is a good substitute. The main duty of the nurse is to "take the uterus," as the order is generally given. But the order is not to be waited for. During the delivery of the body, it is the nurse's duty to follow the contracting uterus with firm pressure. The hand must grasp the fundus, or the very

top of the uterus, and the pressure is to be directed downwards and backwards. This is to prevent relaxation of the uterus, which is liable to be accompanied with internal hemorrhage. The same pressure is to be continued after the child's birth, until the doctor is ready again to take charge of the woman. This is the nurse's duty always, after every kind of delivery.

In case of breech presentation, the procedure is quite different. The woman is then to be placed in what for convenience may be called operative position. Lying squarely on her back across the middle of the bed, her hips are to be brought near the edge. Although this position is not necessary till the very last, yet, because of the inconvenience and possible danger of moving her at the last minute, it is well to be forehanded. For the feet, some support which can easily be moved out of the way must be furnished. Persons sitting on each side can best give it. If the nurse is in charge, her duties are simple, but of vital importance. The child's great danger is of suffocation, from pressure upon the cord. As soon, therefore, as

the cord can be felt, its pulsation must be sought. If the pulsation stops, there is no escape from the necessity of interference. As the body is born, it should be wrapped in a warm napkin or towel, and held up in the curved direction of the prolonged pelvic axis. Its weight is thus taken off the perinæum.

No traction is to be made so long as the cord pulsates. It is sometimes possible to ease the pressure upon the cord by sliding it to one side of the body, whenever more room offers. Alongside of a leg or arm is its safest place. After pulsation in the cord ceases, there is very little time to spare. The child must be extracted at once. There are now two great dangers. First, that the arms will extend and so blockade the delivery of the head; and secondly, that the head itself will extend. If the arms are born folded upon the chest, as they should be, it is a simple matter to twist the child's back to the mother's front, in which position alone the head can safely be delivered. If the arms do not so come down, they must be sought for and hauled down. This is a difficult matter, and it would be impossible, except for the fact that

the child can be rotated so as to bring first one shoulder and then the other to the perinæum. Before any rotation is attempted, the child's body is to be lifted high up towards the mother's abdomen, in order to gain all possible space between the child and the perinæum for the accoucheur's hand to enter. The child's elbow is the part to pull upon, and the effort must be made to sweep the arm down across the chest. Having obtained one arm, and wrapped it in a towel encircling the body, the child must be rotated so as to bring its other shoulder to the perinæum. Of course, the arm will not easily follow the rotation of the body; so this rotation must be in such direction that the body will drag the arm in front of itself, and not behind. After both arms are extracted, the body must be rotated to bring its back forward so that the child's occiput is under the pubic arch. Otherwise the chin would hook above the arch, and render impossible the delivery of the child alive.

Even in the most favorable position, there is nothing harder than it often is to extract the after-coming head. There is no time to think;

the rules must then be at one's finger-tips. Here they are. The child's body is to be held upon the left forearm. The first two fingers of the right hand are to be pushed along the child's neck, in under the pubic arch, against the child's occiput, for the purpose of flexing the head. At the same time, the first two fingers of the left hand are to be pushed in past the perinæum and hooked on to the child's face, if possible on each side the nose, or, if that part of the face cannot be reached, into the child's mouth. Three simultaneous movements are then to be made. The right hand pushes, the fingers of the left hand pull, and the left arm lifts the child up on to the mother's abdomen. Instead of standing directly in front, it is better from the first to stand sidewise, to the mother's left: at any rate, one must come into that position in order to execute the movements properly. If the first attempt fails, it is to be repeated at once. Its success depends almost wholly upon completely flexing the head. Assistance is indispensable. The woman's knees must be held widely apart, and, most important of all, at the instant the motions are made to

deliver the head, pressure must be made above on the outside. A vast deal depends upon the skilful direction of this pressure. If directly backwards, the woman's spine, or if directly downwards, the pubic arch, meets and thwarts it. Backwards and downwards, into the pelvis, the pressure must go to be of any use. Above all, it must be timed exactly to agree with the other movements just described. This is the nurse's business, if happily she is not in command. Her position then is at the woman's right, sitting so far back on the bed that at the proper moment her whole strength may be given to the final push. Till that is needed, she has the woman's right leg to take care of, which can be well held by clasping the hands under the knee. This is the nurse's proper position in all operative cases, where the woman's hips are brought to the edge of the bed.

In the unusual obstetric operations there are no definite rules for the nurse: the doctors then expect to explain what assistance they desire. But in simple forceps operations it is expected that the nurse knows what is wanted. Sitting on the bed, as above described, with her right

hand she holds the woman's right knee, while with her left hand she is to hold the forceps handle precisely where the doctor leaves it when he takes the other blade. If the delivery is so difficult as to require considerable exertion on the physician's part, it is of course necessary for the nurses to prevent the patient's slipping on the bed. This can be well done by each nurse on her side clasping her hands under the patient's thigh.

In all operative cases, before she is so stationed that she can no longer run about the room for what happens to be wanted, the nurse should arrange plenty of napkins within easy reach for the physician's use.

During artificial delivery it is of far more importance than in a normal case that the fundus of the uterus shall be firmly followed down by the nurse's hand. For in case of the forcible extraction of the child, the uterus may entirely lack its natural contractions. This lack the nurse must supply, or disastrous hemorrhage may result. The doctor may very excusably neglect to warn the nurse to do what is her business. After the delivery of the head

by forceps, the doctor may need the nurse's help in disengaging the blades; so her right hand should be free and ready. With her left, she can keep hold of the uterus.

Throughout the second stage, and especially in operative cases, it requires no little care on the nurse's part to keep the woman properly covered and yet entirely accessible. An extra blanket or shawl, once folded to a yard's width, should be kept over the shoulders and chest. When in the left-side position, this blanket will cross the bed diagonally. The other blankets and the cover-sheet, coming from the foot of the bed, should reach only to the woman's waist. When exposure of the perinæum is necessary, as it always is at the last, care should be taken to cover the thighs and nates, either with the regular bedclothes, or, better still, with extra cloths. This is especially necessary in the operative position, where otherwise there would be exposure of the whole lower part of the body. A sheet must then be wrapped around each leg and thigh, and carried up on to the body. Such attention is necessary for the sake both of the family and of the non-professional attendants,

and especially for the poor woman herself, who certainly has the right to the comfort of feeling herself well covered. This is pre-eminently the nurse's business. The doctor has other things to think about. Above all things, the nurse must guard against any appearance of indelicacy. Her patient is to be jealously kept from unnecessary exposure.

CHAPTER V.

THE THIRD STAGE.

The child as soon as it is born is to be laid on its back, so that it will not suck in fluids with its first breath, and near enough to the mother to avoid any traction upon the cord. The mother herself must lie quietly. Some women are so frightened or so excited just at this time that they will obey only the most imperative orders to lie flat and to keep still. The nurse's own self-command must then make itself felt by all. There is no excuse for any confusion on her part. Even if the baby does not immediately cry, there is time enough, as indeed there always is, for cool, steady conduct.

Two lives are to be looked out for. If the nurse is alone, she must manage the mother with one hand and the baby with her other, or

go from one to the other as there is greater need. The two lives are of equal importance. Such exigency, however, almost never occurs. The doctor, or some one else, will attend to the baby; and the nurse, who is holding the uterus, having followed it down as the child was born, can continue giving all her attention to the mother. Firm pressure upon the uterus is necessary in order to guard against internal hemorrhage. Unless great care is taken to grasp the fundus of the uterus, the bleeding may go on and fill and swell out the uterus without the nurse's knowing it. She will then have the mortification of seeing a deluge of blood when the doctor takes hold.

The mother may at once be turned over on her back. Pillows are to be taken away, so that she shall lie flat. Some loose dry cloths, or half an armful of the cotton waste, may be pushed under and about her, but with the least possible disturbance. Water may be given her through the feeding-cup, if she desires it. Perfect rest is the one important thing, and this must be secured at all costs.

Provided that some one is left in charge of

the mother, let us now turn to the child. Is it breathing? If not, is its heart beating? The shock of the outside air naturally starts respiration. The child ought to gasp as soon as born, and these spasmodic inspirations should increase in frequency until full inspiration is accomplished. Often it happens that inflation of the lungs is prevented by mucus in the nostrils and mouth. Such stuff always should be wiped from the entrances, and, in case of ineffectual gasping, a finger should sweep the mouth cavity. Sometimes no attempts are made at respiration. If the heart is beating never so faintly, the child is alive, and no pains must be spared to make it breathe. An hour's work may be necessary. The first thing is to heighten the natural incitement, which in this case fails, — that is, to heighten the shock to the body surface. This may be done by vigorously fanning or blowing upon the child, by sprinkling with cold water or dashing a little on the face, or by slapping the back quite smartly; ice even may be quickly rubbed over the back and sides. After repeating these measures a few times without success, the cord is

to be tied and cut, and the child treated with hot and cold baths. It is for just this exigency that pails of hot and cold water were provided. The hot water should be 110° F., which is about as hot as the bare elbow can comfortably bear. The cold water may be even ice cold, as it is used simply for the shock; while the hot water is used to preserve the child's vital temperature. In the cold water the child should not remain over five seconds, and for a minute after should be kept with all but the face submerged in the hot water. Should even these measures fail to make the child breathe, it is necessary to continue artificial respiration, so long as the child's heart beats. This is done by laying the child on its back, and then alternately sweeping its arms up over its head and down to its sides. Thirty or forty times to the minute this may be done. It may help to blow in the child's face as the arms are raised, for it is then that the cavity of the chest enlarges; but such blowing is likely to do little good unless skilfully directed by some kind of tube into the windpipe. During long employment of artificial respiration, the child should every

few minutes be held in the hot water. The little body cools down below the vital point very quickly. Persistence is often rewarded. Many a life has been saved, after loss of all apparent hope. Efforts must never be given up while the heart beats, or while there is any doubt about that.

Returning now to the common cases where the baby breathes and cries lustily, as soon as born, or after it feels the cold dash of water or the spanking, the question comes when to tie and cut the cord. If there is any prospect of the doctor's soon coming, that part of his business may as well be left for him. After pulsations cease in the cord, then of course it is merely a matter of convenience when to tie and cut. When any means are taken to express the placenta, the cord should be cut beforehand; and, in case the baby is purple and gasping, to cut the cord and allow a few teaspoonfuls of blood to escape may give relief. But these are the exceptional cases. Usually the baby needs the blood that returns from the placenta after the baby is born, and the safe rule is not to tie till the circulation in the cord stops.

The next question is how to tie the cord. First, it is to be "stripped" of its jelly by squeezing between thumb and finger and drawing away from the baby. Care must be taken not to pull on the navel when stripping the cord. If it is large, extra pains must be taken to draw the knot hard, else the surrounding jelly will prevent the blood-vessels from being compressed. On the other hand, if the cord is small and soft, the ligature may cut through it when too tightly drawn. A square knot is so important that the nurse should be able to tie one without thinking how the strings should go. An old granny's knot is sure to slip. The first half of the square knot can be made doubly sure of not slipping, while the second half is being tied, by carrying one end twice instead of once under, as in the common square knot. This is the "surgeon's knot." Two ligatures are to be applied, the nearest one about two inches from the child; and then the cord is to be cut with blunt scissors between the two ligatures. Sharp scissors leave the vessels open: blunt scissors crush through the vessels, and leave them less likely to bleed if the lig-

ature should fail. The placental end of the cord is tied, not merely to save the bed, but for these two more weighty reasons. If untied, the placental blood is expressed through the cord by the contracting uterus. The size of the placenta is thus reduced, and its expulsion consequently delayed. Or if there be twins, the one unborn may bleed to death through the untied cord of the other, for often twins have a common placenta. When cutting the cord, there is danger of cutting the child. A foot or hand may easily whisk between the scissor-blades unless the cord at the point to be cut is held in the palm of the hand.

A most important service, as the child breathes well, is to wipe the eyelids and eyebrows clean. This cannot be done too carefully. Inflammation, even permanent loss of sight, may follow the smear of dirt into the eyes. The little fists must be wiped clean at the same time, as they will the next moment be rubbing the eyes. It is not a bad plan to pin a napkin round the baby, holding its hands down, before wrapping up in the warm blanket. This must not be done, however, till the breath-

ing is fully established, — till both sides of the chest expand equally, and the pink color extends from top to toe. Then the baby can be bundled up, and laid in some soft, warm place, to wait for the first washing. Just before leaving the baby, the cord should be looked at to see that it is not bleeding.

The mother meanwhile is lying perfectly still. Except in case of hemorrhage, nothing need be done to hasten the delivery of the placenta. This very emergency, nevertheless, must be looked out for. Under proper pressure of the uterus, internal hemorrhage can hardly escape notice, in which case the uterus will be felt to be soft and full. But not even this pressure is a sufficient precaution. Covered over by the bedclothes, and lying quite comfortably, the patient may flood the bed with her life-blood before the nurse makes the awful discovery. Vigilant watchfulness offers the only security. Instead of uncovering the patient, it is just as well to make frequent removals of the cloths from underneath the vulva, which can best be done by passing the hand under the thigh.

There is always some flowing; and if the cervix uteri or the perinæum is lacerated badly, the amount may be alarming when in reality there is no danger. Whenever there is a suspicion of post-partum hemorrhage, the question of its source must be determined by increasing the pressure over the uterus and at the same time looking into the vagina. When this pressure causes a gush of blood, or when a small stream of blood is seen coming from the vagina, the probability is that the hemorrhage is from the uterus. The delivery of the placenta must then be hastened. Rarely does this fall to the nurse's lot, and yet she ought to know how to do it in case of need. The desired object is to provoke uterine contractions. Putting ice on the abdomen, slapping the surface with a wet towel, rubbing the surface, or kneading the uterus through the abdominal walls, are measures useful for this purpose. Having secured the contractions, the next step is during them to apply vigorous pressure to the fundus, grasping and squeezing it while pressing downwards and backwards. This compression is to be applied only during the contractions, which

may be provoked again and again if necessary. In the intervals between the contractions, the same steady pressure is to be employed, which is maintained throughout the third stage in every case. Other means of checking a post-partum hemorrhage, which indeed may occur or continue after the placenta is expelled as well as during the third stage, are given in another chapter. The artificial delivery of the placenta is what we are now considering. If such pressure as has just been described fails to expel it, then the placenta must be pulled out. Fools pull on the cord. And this is folly, not merely because the cord will break, or pull out only a part of the placenta, but also because, by reason of the cord's usual central attachment, traction upon it pulls the centre of the placenta forwards, instead of the edge, which latter is the natural and much the easier way of its escaping. Besides, pulling the placenta by the cord is likely to exert suction force back of it, inside the uterus, which not only holds it back, but also increases the hemorrhage by literally pumping blood from the open uterine vessels. The uterus itself might be thus drawn inside

out. The only proper way of extracting, when expressing fails, is by grasping the placenta with the fingers. If it has partially escaped from the uterus into the vagina, two fingers may suffice to turn it edgewise, and then to coax it out. Generally it will be found necessary to insert the whole hand, in order to reach above the placenta and so be sure of pulling the whole. As in traction upon the child, so the placenta must be drawn in the curved line of the pelvic axis. Sometimes the placenta is so adherent that it can be obtained only piecemeal. Such an operation may never become the nurse's duty. The fact remains that her patient's life may depend upon immediate extraction of the placenta. It is perfectly safe to attempt this manual extraction. The hand, made thoroughly antiseptic and well vaselined, can be steadily inserted without causing excessive suffering. And even if the extraction cannot be accomplished, the presence of the hand in the vagina and cervix will incite contractions of the uterus, and also serve as a plug, thus in both ways preventing further loss of blood.

In every case, when the placenta emerges from the vulva, it is to be turned over and over to twist the remaining membranes into a rope. This must be done without drawing it away, or in any way pulling on the membranes. After twisting six or eight times, or more if necessary, the rope of membranes can be followed up by the fingers and pulled very gently. Great care must be taken not to tear them; for it is then hard to obtain the remnants, which if left inside are likely to make trouble, and indeed may cause septicæmia by offering a foul lodging to the dreaded germs of that disease. If the rope is sufficiently twisted, it is an easy matter to follow up the membranes to their line of attachment to the uterus; and, by pushing at that line and prying up with the ball of the finger while the rope is gently drawn upon from the outside, it is generally easy to dislodge them entire.

Supposing that the physician is doing all this, as will be the case probably in ninety-nine out of a hundred times, what then is the nurse to do? The aunts have the baby in hand, the physician has relieved the nurse of holding the

uterus, and is she then to stand idling? May her training forbid! The poor mother's patience is now nearly gone. She needs cheering and steadying. Very likely a little force must be used to hold her thighs apart, or to keep her hands from instinctive protests at the doctor's necessary manipulation. Any stupid stand-by would of course do these little things if asked or ordered; but the doing of them without being asked is what makes the nurse a treasure.

There is nothing equal to a common tin basin for scooping up out of the bed blood-clots and liquor amnii. But an empty basin will be wanted at the last moment to receive the placenta, so it is just as well to have a second one ready. In cities the law requires that the placenta shall be buried or burned. Usually it is burned, and there is no neater way of disposing of it, even in the wilderness. It is the nurse's business to attend to the matter in such way that no one else shall have to think of it. Put it in a hot fire, and be sure the dampers are wide open. But the doctor may want to examine it; so till he leaves the house, or expressly says that he does not want to see

it again, it is to be left under the bed, covered with a clean cloth. All stained cloths and dirty vessels are also to be kept covered. The more successfully the nurse conceals her own unconcern in handling and seeing such things, the more acceptable she will be to the family. This does not mean that she is to be in the least squeamish. No matter how offensive her work may be, she is never to show by the slightest sign that she finds it so. It is equally unpardonable for her to disrespect the horror and repugnance which blood-stains and the like generally cause. The patient's feelings in this respect are of most importance. The less she sees of these things, the better. Not a small part of the dreadfulness of child-bearing can be avoided by proper care to save unaccustomed eyes from seeing its necessarily disagreeable features.

After labor is over, it depends upon varying circumstances how soon it is best to "fix up" the patient. She is a very sick woman. No matter how bright and jolly she appears, no matter if she declares herself as good as new, be not deceived. Her vivacity is not vitality.

Her system has been rudely shaken. Her nerves, quivering from fatigue, while simulating superabundance of strength, may be on the point of letting go of life itself. Benumbed into insensibility of her tired body, her clearness of mind may convince her that she never was better physically. Woe is hers if her attendants are beguiled into that fancy. Confusion of any sort — a friend rushing in to see the new baby, loud talking, flaring lights, any interruption of the shaded silence of the sick-chamber — may do great mischief. Let the nurse just remember that her patient's life-blood is held from pouring out of the open vessels only by muscles and nerves already tired by the long hours of labor, and she then cannot help jealously guarding their complete rest. As an additional security, it is well during this hour of rest for the nurse to keep her hand on the abdomen, gently holding the uterus. No pressure is needed. It will naturally swell and lessen in size, rising and falling at the same time. And the holding is merely to insure against abnormal enlargements from internal hemorrhage.

The question of when to make the bed clean depends upon how best to obtain for the patient the needed rest. She may want the doctor himself to put on the binder, or she may fret about the soiled clothing, in which cases there is no other way but to set things to rights as speedily as possible. If, however, she consents to sink back into perfect quiet for a time, care need be taken only to have dry material next her, and plenty of warm covering. She will soon be shaking with the cold, if, indeed, the after-chill has not already occurred. No matter if it is the hottest midsummer day, she will miss the heat of her baby, which is a degree or two above that of her own body. Not only is this chill not a bad sign, but it is even to be desired, as it is a strong indication that there will be no hemorrhage.

When the time finally comes to clear away all traces of the labor will be realized the advantage of having made up the bed elaborately to begin with. The draw-sheet, which has, folded within it, the rubber cloth, can now be removed, leaving the bed with a clean under sheet and the protecting rubber underneath.

By successively folding this draw-sheet into a band six inches wide close up to the patient, who is now on her side, and by laying under this band another draw-sheet similarly folded but without an enclosed rubber cloth, it is easy for the patient to turn back into a perfectly fresh bed. Several things must be done to insure the full success of this manœuvre. In the first place, the patient needs to be sponged off with warm water and soap. Especially must the vulva, the insides of the thighs, the perinæum, and the nates be thoroughly washed. This can in part be done when the patient is on her back. As she lifts her hips, resting her weight on her drawn up feet, a basin or bedpan can be slipped under to catch the drippings from the sponge. Even if no douche be given, a syringe will be useful to wash away the clinging blood-clots; and this must be done thoroughly. When the patient is turned on her side, her back can be washed. There is no advantage in turning her back on to dirty sheets. The skin must be rubbed dry, each part as soon as washed, not waiting to complete the washing on turning. Warmed towels help

matters. Unless this process of cleaning up is methodically done, the poor woman will not escape a good deal of turning and moving. It can be done so that she need only turn on her side, and roll on her back again. Even if the night-dress has to be changed, there need be no further moving except that, after having one arm put into its sleeve while on her side, and then having rolled back over the garment, she must then roll on her other side in order to sleeve the opposite arm. In case her night-dress was properly fastened up to begin with, it is of course easy to unroll it.

The binder can be carried under very neatly, by folding it up in the fresh draw-sheet in such a way that, when that is in place, the binder will be directly under the woman's hips. As she rolls over on her back, the folded draw-sheet can be reached from the other side and unrolled. The napkin should be put in place when she is on her side, and its ends held as she rolls back. All is then ready to have the binder fastened on. The only good the binder does is to make the woman comfortable. The common notion, that it prevents the abdomen from last-

ing protuberance, is simple nonsense. Its only use is in binding together the pelvis, the joints of which have all been so strained as to give her the feeling of her hips falling apart. True, the physician may make use of it to hold pads down on the uterus to keep it in place; but this is not the nurse's business. What she has to do with the binder is simply to swathe the hips tightly and firmly. One end of the binder should come just to the median line, and the other end is to be folded under, so as to reach a couple of inches past the median line. The binder reaches from well below the hips nearly up to the navel. On account of the woman's greatest girth being at her hips, the binder can be kept in place by pinning in gores of two or three inches at the sides, top, and bottom. The two ends are then to be tightly drawn past each other and pinned together, beginning at the bottom. This can best be done if the nurse stands on the patient's right side, with back to her face. Holding the binder together with her left hand, fingers underneath and thumb over, the right hand is free to stick in the dozen or more safety pins.

Some milk or gruel will probably taste very good to the patient by this time. It is to be given through the feeding-cup, care being taken that her head is not raised off the low pillow at any time after her child is born, until she has the express permission of her medical adviser.

CHAPTER VI.

CONFINEMENT.

ALTHOUGH Florence Nightingale insists that a lying-in woman ought not to be considered a sick woman, nevertheless to all intents and purposes she is such, and must be so treated. Child-bearing is of course a physiological process. And it is marvellous how safely it is endured, even by women whose natural fitness for motherhood has been forfeited by perhaps generations of wrong living. Yet it is not a process devoid of danger. A woman has no little cause for thankfulness for having been preserved in the perils of child-birth. Statistics show the comparative danger in different diseases. Of such a disease it is said every patient dies; of another disease, on the other hand, no one dies. Now in child-bed, according to a fair

showing, five in a thousand, that is, one out of two hundred cases, die.[1] This fatality is shown to be more than half due to the accidents of child-birth; and it is of course partly due to the liability to disease and death which follows us all alike from beginning to end. Lying-in women, besides, as the same statistics show, have a decidedly increased liability to fatal disease during their confinement and after their safe deliverance, which accounts for at least thirty per cent of the fatality above mentioned. This liability to fatal disease by no manner of means expresses the critical condition of a woman during confinement. There is far greater danger of her never fully recovering her previous health.

In consideration, then, of her entirely helpless condition, of her peculiar liability to disease and death, and of her greater liability to become a chronic invalid, it is surely not out of the way to treat a case of confinement as a case of sickness. On no occasion in life,

[1] Report of the Registrar-General on the Mortality among Lying-in Women in England for the Year 1867, as quoted in *Notes on Lying-in Institutions*, by Florence Nightingale.

except in sickness, are such helplessness and danger met; and it is safe to say that the large majority of women will not object to being considered sick during their confinements. There can be no doubt that their comfort, and their safety from present and future dangers, depend greatly upon their being so considered. Still, there is a true principle underlying Miss Nightingale's objection, which has also an almost universal application in nursing, — a principle that, with her unerring nurse's sense, she has emphasized for the benefit of the world, — *It is not well to make the sickness prominent in the patient's eyes.* Sometimes, however, in no other way can the patient's co-operation be secured in those measures necessary for her recovery. It is this important exception to the general rule that outweighs the objection to calling a lying-in institution a hospital, and to treating its inmates as patients; and while it is by all means the nurse's duty to banish from her lady's confinement-chamber all that is ill-boding, yet it is equally her duty to consider the case, if not that of sickness, at least one of critical convalescence.

Under the most favorable circumstances there is sufficient change in the first week after delivery to reduce the woman's weight by one twelfth. A general readjustment of the body's functions must occur. While in the pelvis there is a shrinkage of tissue caused by the absorption and discharge of no longer needed substances, in the breasts there accumulates for the infant's support a constant supply of food. The skin's activity is increased, the perspiration often becoming a source of annoyance. The kidneys are also more active, as is usual in any convalescence. Owing to the recumbent position, and to the fact of the increased room in the abdomen, this increase in the amount of urine may be associated with over-distention of the bladder. The amount of urine passed should therefore be noted. As in fever, the appetite is lessened and the thirst is increased, which facts should govern the diet. Owing to the small amount of food taken, and also to the change from upright position, the action of the bowels is sluggish, and generally requires stimulating.

These great changes are marked by phenomena which at any other time would excite

the gravest apprehensions. There is the post-partum chill, already spoken of, which signifies the disturbance of body temperature caused by the loss of the baby's heat, and also by the abrupt cessation of muscular effort. Here the chill means nothing, except as a hint to the nurse to warm the dry clothing, and to make the necessary changes as quickly as possible. The clinical thermometer exhibits for the first few days a temperature usually varying one or two degrees above the normal daily variation. The pulse, on the other hand, diminishes in frequency after labor to a rate often very considerably below the normal, but rises generally above the normal rate after a few days. These changes of pulse and temperature are in no wise unfavorable. On the contrary, they show the convalescence to be normal.

Six or eight weeks elapse before the uterus regains its normal condition. Strictly speaking, the organ never returns to its condition previous to pregnancy. Immediately after delivery it is as large as a cocoa-nut. The same process of contraction and retraction by which the uterus emptied itself continues at intervals,

causing the after-pains, which are harder generally in multiparæ, and after short and easy labors. They last from one to four days. During this time, therefore, the size of the uterus varies considerably. At the end of a week it should have diminished by one half, and after ten days it should no longer be felt above the pubic arch. Even if there were no other reason for keeping a woman in bed after her labor, there is in this fact of ten days being required for the uterus to sink back into the pelvis a sufficient reason, which must be apparent to any one acquainted with the wretched sufferings that occur from displacements of the uterus. The organ is held in place by ligaments running to the sides of the pelvis, backward to the rectum, and forward to the bladder. These ligaments grow and stretch as the uterus increases; and after delivery they shorten as the uterus contracts. Unless the uterus is kept perfectly in place during this process, one set of ligaments cannot help contracting more than another. A permanent displacement is of course the result. As the uterus settles down into the pelvis, if the wo-

man is sitting or standing, the force of gravity, instead of helping as when she is on her back, now tends to bend the organ forward.

A still more forcible reason for insisting on the patient's keeping the recumbent position is her liability to embolism. The veins of the uterus are plugged by the coagulation of the blood in them, when the maternal blood is no longer needed in the placenta. This plugging is essential in preventing hemorrhage from the open vessels, as the placenta separates from the uterine walls; and in due time the coagulated blood is absorbed, and the vessels themselves obliterated. But for the first few days there is danger of these clots becoming detached, and floating up the great veins to the heart. There they may make trouble by clogging the valves. If not there, they are sure to clog some artery in the lung, whither the next heart-beat will send them. The result is terrible. The poor woman, who perhaps insisted upon rising merely to avoid some trifling inconvenience, gasps, swoons away, and very likely dies before aid can be summoned. There is no cure for pulmonary embolism. Prevention offers the only

escape. And the nurse who consents to her patient's rising for any purpose whatsoever, during the first few days after her delivery, must remember this risk. The detachment of the plugs of clotted blood is of course made more likely by straining movements; and whenever embolism is threatened, perfect rest offers the only security.

While the uterus is regaining its former shape and size, from the cavity is being shed the remnants of its lining tissues formed during the pregnancy and not expelled with the placenta. These bits of tissue, together with shreds of membrane, small clots of blood, and the mucus of the cervix and vagina, are washed down and out by a serous fluid which oozes from the uterine walls. All these discharges are termed the *lochia*. At first, for a few hours, the discharge is of pure blood, and for three or four days the color is red from the commingling of more or less blood. Then the lochia become pale and thin. In the second week the discharge becomes purulent, of a greenish white color. After a fortnight the lochia are again pale and thin, and then gradually disappear.

There are thus several kinds of lochia, three of which it is important to remember.

First is the red lochia, which lasts three or four days. During this time the discharge amounts to two or three pints. The bright red color should not last many hours, and until the discharge becomes pale it must be closely watched that it does not become excessive. It is difficult to state what is an excessive flowing. If the blood is seen coming even drop by drop, that is too much. Or if a napkin equivalent to four thicknesses of common cotton cloth is soaked through in ten minutes, making a stain as large as the hand, that is too much. Immediately following the expulsion of the placenta a little flowing is all right. But the flow should soon stop, and in the succeeding few hours there should be only a slight oozing. Often there are clots expelled, which while in the uterus provoked painful contractions and also prevented any escape of fluid. The amount of blood lost may be considerable, yet not enough to be called a post-partum hemorrhage. In order to be sure that this does not escape notice, the napkins ought to be examined at

least every hour for the first six hours, or while the bright red color continues. After that, the napkins generally need be changed not oftener than four or six times in the twenty-four hours.

The second kind of lochia, pale and thin, lasts from the third or fourth to about the eighth day. This discharge amounts to a half-pint, more or less. It is somewhat offensive, as is also the third kind, which looks like and mainly is pus, and amounts to perhaps six ounces. This offensive odor is very different from the extreme offensiveness of the lochia that may occur in cases of puerperal fever. In every case the character of the lochia is to be noticed, and in the nurse's daily records should be noted the color, the amount, the odor, and the appearance of any solid masses that may be discharged. Any unusual discharge or washings should be kept in a covered vessel for the doctor's inspection. If the napkins are made of cotton waste wrapped in cheese-cloth, as recommended in the first chapter, they are then to be burned as soon as possible after removal. If they are expected to be washed, they are to be first put in a carbolic acid solution and so carried to the laundry.

The utmost cleanliness is necessary for the parts exposed to the lochial discharges. There is a difference in practice as to how soon the first vaginal douche shall be given; some doctors preferring not to disturb the woman immediately after labor, while others make it a point to wash out the genital passage thoroughly at the very outset. The physician is to be asked in regard to this; and no douches are to be given without his permission. If no different medical directions are given, the daily douche may be of warm water containing one per cent of carbolic acid, which is about a teaspoonful of the acid to a pint of water. Any syringe may be used, provided the nozzle has no central perforation by which a stream would be directed forwards. Such a fault can be remedied by soldering up the central hole, and, if needed, by making other holes at the sides of the rounded nozzle-end. The danger is thus avoided of injecting the uterus. For a week or ten days, and perhaps much longer, after delivery, the os uteri is so large that the nozzle might easily enter it. An intra-uterine injection may be required, but that hardly comes within

the nurse's province, and at any rate it is not to be given when only the vaginal douche is intended. The Fountain syringe is the best for giving douches, as the force of their stream is steady and easily regulated. Before inserting the nozzle, the solution used must be driven through, both to warm the nozzle and to drive all air out of the syringe. This is always to be done whenever a syringe is used. The nozzle is to be freely moved about inside the vagina so as to wash out the *fornix*, the deep pocket surrounding the cervix. Care must be taken that the water readily escapes. It is a difficult matter to prevent wetting the bed when the douche is given. The round bed-pan is easier to manage than the slipper bed-pan commonly used. The trouble with the latter is that its low end sinks into the hollow of the bed. This can be prevented by propping it up with folded cloths or a cushion of cotton waste, so that the nates come squarely on the bed-pan. The binder of course has to be removed each time the douche is given.

There is no need of a flannel cushion-cover for the bed-pan, but it must always be warmed

by rinsing in hot water before using. If the rim is oiled, it can more easily be slipped into position. After use, it is to be thoroughly washed, then rinsed in the carbolic acid solution, and again in hot water, and finally it is to be wiped dry, each time as thoroughly as if it were not to be used again for a year. This is surely a more clean way than to leave it half filled with any disinfectant.

The bed-pan is to be slipped into place when the hips are lifted by the patient. This she can easily do by drawing up the knees and resting her weight upon her feet. Before giving the douche, the external parts are to be washed by a stream from the syringe or from a pitcher held above. These parts are afterwards to be dried by gently pressing with a warm soft towel. After the patient is allowed to sit up dressed, the evening douche may be omitted. The morning douche, if douches have been allowed by the doctor, is to be continued so long as there is the slightest discharge. It often happens that the red lochia return within the first few days after assuming the upright position. This is a warning signal, and means

that the patient must be kept quiet a little longer.

The natural impulse to urinate is very feeble after delivery. There may be also partial obstruction of the urethra caused by the pressure of the child's head when passing under the pubic arch, which is especially common after instrumental delivery. The nurse should therefore urge the patient to pass her water in the course of the first eight or ten hours. In case not more than four ounces of urine is passed in the first twelve hours, the physician is to be sent for. Catheterization may have to be performed every eight hours for the few days following, and the physician may direct the nurse accordingly. There is now even greater danger of conveying infection to the bladder than there was during the labor, and, on account of the bruised condition of the genitals, passing the catheter may be more difficult. The same precautions need to be taken; and to save the extra disturbance of the patient, it is well to draw the urine immediately after the douche is given. Before catheterizing, there should always be tried putting a sponge full of hot

water directly over the pubes. This is to be done before the bed-pan is removed. The hot water trickling down over the urethral orifice incites the desire to micturate. The patient is to be left perfectly quiet for several minutes, and then this expedient is to be repeated several times. If this fails, the bed-pan is to be removed and the catheter passed. A neat way of managing is to have a small rubber tube, three feet or so in length, attached to the catheter, to convey the urine to a vessel in a chair beside the bed. In withdrawing, to prevent the contents of the catheter spilling upon the patient or in the bed, the tube should be held tightly pinched till brought to the vessel. Now, by letting go, the tube and catheter will empty. Contrary to the usual advice given to nurses, catheterization should always be done by the aid of sight. The reasons have already been given. Too great pains cannot be taken to clean the catheter after using. If water is allowed to run through, the inner end must first be put under the faucet. After thorough washing, the catheter is to be kept soaking in a one to twenty solution of carbolic acid. But

be sure to remember to rinse it clean of the acid before again using it.

Few women during the last weeks of their pregnancy avoid an accumulation of fæces in the intestines, only the lower part of which is generally removed during their labor. After delivery, the remainder gradually works down into the rectum. Owing to the inconvenience of the prone position, this hardened mass is seldom easily discharged without the aid of laxatives to wash it down, or of enemata to loosen it from below. The common practice is to give some laxative on the third day. This, however, is the physician's business, not the nurse's. What she may do, at any time after the first day, is to give a loosening enema of oil and water when her patient has ineffectual desire to empty the bowel. After a laxative medicine is given, if there is no operation of the bowels within six or eight hours, it is well to give a salt-water enema. The proper position for giving enemata to a lying-in patient is to have her lie on her side at the edge of the bed. She is then of course to be turned on her back for using the bed-pan. After the operation,

the anus and nates are to be washed in cool water, dried by pressure with a soft towel, and then the parts liable to excoriation are to be anointed with vaseline. The patient's comfort depends greatly upon the nurse's faithfulness in these matters. After the physician's regular attendance is discontinued, if the patient is troubled by costiveness, enemata should be continued on alternate days. Attention to the diet will generally bring about a more satisfactory habit. Baked apples for breakfast, figs for dinner, and stewed prunes for supper, will overcome most obstinate constipation.

There is no more dangerous pitfall for the nurse's reputation than in the care of her patient's breasts. It is well to understand their structure. Each breast is composed of about twenty glands, the ducts of which converge and empty at the nipple. These ducts are much larger than their orifices in the nipple itself, and are distensible under the areola. They branch many times, and their finest branches arise from little pockets in which the milk is secreted from the surrounding blood. The glands, composed of the branching ducts and

the countless pockets, are packed in fat tissue, and the whole is covered with soft thin skin, especially delicate at the nipple.

The breasts increase in size during pregnancy. Sometimes milk from them flows freely long before the child is born. Usually about the third day after delivery, the breasts swell and become very sensitive. If the baby has nursed from the first, this is less pronounced. But this turgescence is not due merely to an increased amount of milk. There is often a slight fever accompanying, called the milk-fever, which gives the clew to the cause of the breast-swelling. It is caused by a congestion. The breast is overloaded with blood, not with milk. This is the critical time. If the baby is kept pulling at the breasts, and if in the mean time the nurse tries to draw out the milk, or poultices them, she will be pretty sure to change a harmless congestion into an inflammation that may destroy the breasts by abscesses.

The only proper treatment is such as will aid the outflow of the extra blood. The presence of milk in the breasts cannot injure them. The glands are open, and the large pouches in

the ducts are provided with elastic walls, which will squeeze out the milk when the proper incitement is applied. Suction on the nipple puts this machinery into operation. Rude handling not only fails to do so, but it also increases the congestion: more blood is sent there to repel the rough treatment. Another way of starting a natural outflow of milk, and at the same time of aiding the venous currents to relieve the breasts of the surplus blood, is by very gently stroking them with a circling motion around their base, at the same time drawing in towards the nipple. It is almost dangerous to recommend this practice, as it is worse than useless unless done with exquisite care. The hands and the breast should be first well lubricated with camphorated oil (linimentum camphoræ). Standing on the opposite side of the bed, the palms are then gently passed round the breast, which is held rather upwards on the chest. The thumbs can be used to stroke towards the nipple. Rubbing is hardly the word for it. The stroking must be as soft as if there were danger of rubbing off the skin; not merely because otherwise pain might be

caused, but because only this delicate stroking will effect the desired object. If rightly done, the hardest and most painful breast, after half an hour's treatment, will be soft and comfortable. The milk will be flowing freely, and, what is of more consequence, the circulation will not be overcharged.

It is important, after this condition is obtained, to hold the breasts well up on the chest and in towards each other. Double sling bandages round the neck, or a single wide girth bandage, will effect this after a fashion. The one really satisfactory way is by the double Y bandage.[1] A single T bandage is first made by folding a napkin lengthwise, so that for an average-sized patient it shall be thirty-two inches long by three wide. At the middle of this, and at right angles to it, is pinned just between its folds a napkin of the same size, similarly folded. This T bandage is next made into a Y bandage by making a diagonal fold in the middle of the cross-piece, and fastening

[1] The double Y bandage as here described was invented by my predecessor at the Boston Lying-in Hospital, Dr. Geo. G. Hayward. See frontispiece.

the corners of the plait with safety pins on the outside. The bandage is now ready to put on. The tail-piece is passed under the woman's back snug up to her armpits, so that the fork of the **Y** just clears one nipple, when that breast is held upwards and inwards on the chest. The tail-piece on the other side is carried up on the chest directly over the breast. The arms of the **Y** are then brought over the chest, one above and the other below the breasts, and their ends pinned to the tail-piece, so as to hold both breasts in similar position. Cotton wool should be placed between the bandage and the outside of the breasts, and also between the breasts, to prevent their chafing. The bandage can be kept from slipping down by straps over the shoulders to the back-piece, and from slipping up by pinning it to the binder. It is well to connect the upper and lower parts of the bandage, between the breasts, by a safety pin, or by two or more linked together if needed. Ability to put this bandage on handsomely depends a great deal upon practice. The aim is to have it evenly tight throughout. When fitted well, it serves its purpose admirably.

As the nipples are not covered except by the loose end of the tail-piece, the bandage does not have to be removed when the baby nurses.

So long as the breasts are evenly hard and swollen, there is no fear. When a lump persists for twenty-four hours, it is safest to notify the physician. Little lumps under the areola may mean nothing more than turgid ducts. At the base of the breast they mean much more. If any portions of the breast become painful, and appear swollen and red, it is best while waiting for the doctor to apply cold wet cloths.

The care of the nipples properly begins during pregnancy. Blondes, it is said, may expect more trouble than brunettes, from oversensitiveness of the skin. In order to prepare the nipples for nursing, for several weeks before confinement some astringent wash should be applied twice daily. The application may be made with a flannel cloth, gently pulling on the nipple so that the wash shall reach the bottom of the surrounding folds.

After each nursing the nipples are to be washed with warm water, thoroughly cleaning

the milk from the creases made by retraction of the nipple. Then they are to be anointed with vaseline and simple cerate, equal parts, and are to be carefully washed when the baby is again brought to the breast. In spite of these precautions, excoriations and fissure are liable to occur. The only cure for a fissure is rest. A solution of twenty grains of nitrate of silver in an ounce of distilled water may be applied with a camel's-hair brush. It causes little pain, and works well. For excoriations, any astringent wash, followed by abundant use of ointment, is useful. But for all nipple troubles rest is needed. Nature will repair the lesion, if time is given her. This it is hard to manage. Sometimes the needed relief can be obtained by omitting to nurse with the affected nipple for twenty-four hours; but this may prove a cause of suffering. Nipple-shields can be used with occasional advantage. The simplest kind (the Needham) is the best, because it is easiest to keep perfectly clean. It is made of a single piece of rubber. Another kind (the Preston) has a glass bell to cover the nipple, from which a tube leads to the baby's mouth-

piece. This one has the advantage of staying on of itself, but it is harder to clean, and so is worse for the baby. Whatever shield is used, when not in use it should be kept soaking in a tumbler of water to which has been added a teaspoonful of common cooking soda. To protect the nipples from the clothing, simple metallic shields may be worn with great comfort.

Breast pumps are dangerous contrivances. The nurse had better never use one except by the doctor's orders, and according to his instructions. They never need be used for drawing out the nipples. A much easier and safer way of doing this is by pressing around the base of the nipple the mouth of a bottle which has just been emptied of hot water. As the bottle cools, the nipple will be gently sucked up the neck of the bottle. In removing it care must be taken not to pull suddenly upon the bottle, but gradually to loosen it from the nipple. Generally it is easy to draw out the nipple by gentle manipulation.

There is no question that, even for the mother's own sake, it is better for her to nurse her baby at least so long as she is confined to

her bed. The well-known fact, that the after-pains are often caused or intensified by putting the baby to the breast, shows that the process of nursing has more or less connection with the contraction of the uterus. This favoring influence it is a pity to lose. There is, besides, an inevitable disturbance whenever a physiological process is interrupted. In the case of interrupted nursing, if properly managed, it is true that the disturbance caused is slight; but not even a slight disturbance of the puerperal woman should be allowed when possible to prevent it.

Successful management of nursing depends upon nicely balancing the interests of mother and child. For the first twelve hours the baby does not need to nurse. A teaspoonful now and then of warm sweetened water may be given if the baby cries persistently. Meanwhile it is very important that the mother should be undisturbed. If she can sleep through her first day, the battle is half gained, and her convalescence is most auspiciously begun. After her first long nap, if she wants her baby, and if the baby has been washed and dressed, there is

no harm in letting them have their next nap side by side. Of course, if the baby murmurs, the mother will declare that it is starved; and there is no harm in letting them try nursing. But there is to be no worry about it. On the slightest sign of motherly anxiety or of weariness, the baby is to be removed. After the first day the child may stay with its mother most of the time. For a week or two it is folly to attempt any regularity about its nursing. Practically, the baby will have to be nursed whenever it wakes up. But this should not be oftener than every hour. After ten days the nurse should try to bring about regular intervals between nursings, of about two hours by day and four hours by night. The sooner this habit is formed, the better for mother and child and nurse.

In the care of a lying-in woman, as in the care of every person confined to the bed, it is well to remember that twenty-four hours seem like forty-eight to the patient. The common divisions of the day, therefore, need to be changed. Something must be done to break the monotony of the long forenoon, afternoon,

and longer night. The increased frequency of meals will do something in this direction, and the invaluable nurse will arrange other events to accord with the fancy that each day is made up of two common days.

The daily bath comes early in the forenoon, after the douche, and after the use of the bed-pan. The middle of the body has then been washed. A foot-bath can easily be given to a patient in bed who is lying on the back with the knees drawn up, and in this position the legs also can be bathed, without wetting the bed. For the rest of the body the sponge bath alone is practicable. Success depends upon quickly drying the skin, and upon not even dampening the clothes or bed linen. A thin blanket should therefore be kept around the patient while the bath is given; and as soon as a thigh or arm is sponged, it should be wiped dry with a hot towel. Sponge-baths dexterously given are a great luxury. They may be ordered by the physician; and even if not, they may be given almost at the nurse's and the patient's pleasure. At least once a day a sponge-bath is needed to keep the skin in good order.

The use of soap and of alcohol, bay rum, eau de Cologne, etc., in the bath, is a matter of no real importance, and yet to some persons such luxuries have become almost necessary. The important effects of bathing are gained by directly affecting the temperature of the body, and by aiding the skin in its functions. Simple cleansing of the skin with sponge-baths of tepid water is always permissible. But the use of hot or cold water, it must be remembered, has a distinct effect upon the blood circulation and upon the vital temperature of the body. This effect may be favorable or may be otherwise: so, except for the tepid sponge-bath, it is best to await orders from the physician about bathing.

The lying-in patient, even in perfectly normal convalescence, is liable to great distress from excessive perspiration. Nothing is more wretched than waking from sound sleep to find clothes and bed soaking with sweat. A sponge-bath in brine the last thing before sleeping will often prevent this wretchedness; and whenever it occurs, no pains must be spared to make the patient comfortable as soon as possible. Everything has to be changed. The surest

relief can be given by the sponge-bath; but, if the patient is very weak, dry rubbing with hot cloths is more suitable. This may have to be repeated almost hourly.

Before attempting that critical part of the toilet, washing the patient's face and hands, the nurse cannot take too much pains to have her own hands clean and warm; the water and sponge and towels must be temptingly clean. Even the soap and its dish must be clean and dry. All is to be well ready before beginning. Take care not to splash a drop of suds into the patient's eyes. Let her have the basin for her hands, and the luxury of feeling the water. The nurse herself must never use her patient's towels.

It is a foolish notion that it is harmful to brush the hair of a very sick woman. If properly done it is restful. And a lady must be very ill indeed who does not feel really better for having her hair neatly brushed. In order that this may be easily done, it is better that the hair be arranged in two braids. Then each half of the hair, can be brushed in turn, without raising the head from the pillow. While brush-

ing the hair, a towel should always be spread over the pillow.

The diet for her lying-in patient is by no means the least important subject for the nurse's attention. From the physician she may expect only vague directions; and even in families where the ordinary diet is fit for princes, there is rarely found so good preparation of food for the sick as even paupers receive in hospitals. The nurse, therefore, must know what supplies to order, and how to prepare all kinds of tempting dishes. It is not enough to have in memory receipts without number. The art of cooking can be acquired only by practice; and the prize nurse will have taken every chance to learn just how to make to perfection gruels, beef-tea, egg-nogs, all kinds of plain puddings, and refreshing drinks.

The patient's relish oftentimes will depend as much upon the serving as upon the preparation of her food. The sight of what seems too much is always disastrous to the appetite. Suppose it to be cream-toast, for instance, that is ordered for the supper. Good bread, well toasted, and sweet cream, of course, are the

indispensables; but it is equally important that the toast shall not have grown cold, that it is soaked just enough and no more, and that it is not too salt. Extra cream and extra salt can easily be added, while an over supply of either cannot so easily be remedied.

CHAPTER VII.

DISEASES OF CHILDBED.

Puerperal Fever.

Old nurses tell of poor Mrs. So-and-so, who, after her baby was born, was as well as could be till the third day, when she took a terrible cold from an open window, and then in a few days died. Such a story they will tell to excuse the stifling air of the lying-in chamber, and to discomfort the doctor who dares to let in fresh air. The old nurse's horror of her patient's "catching cold" comes from mistaking for a "cold" the dreadful chill which often is the first open sign of puerperal fever.

Fortunate indeed is the nurse who has never met this arch-enemy of the household. Other fevers strike down old and young alike. Puerperal fever strikes with a deadly thrust the very centre of the home. Small-pox and

cholera are not more to be feared; and yet it is a disease that can largely be prevented, and is often amenable to treatment. Its bad name is known the world over; and, if for no other reason than to be able to assure frightened families that it has not come to them, for that alone the trained nurse should understand the nature of the disease.

Although this fever usually is ushered in with a severe chill, still its onset may not be so accompanied; and, on the other hand, chills may come from other causes, as, for instance, a breast abscess. Suppression of the lochia, suppression of the milk after its flow has fairly begun, offensive lochia, pain in the abdomen, a persistent diarrhœa, are all symptoms which, with many others, would make the physician anxious to exclude the dreaded disease. The clinical thermometer tells the story. In childbed, a continued high temperature not otherwise explicable points almost certainly to blood-poisoning, and this is what puerperal fever is, — as is plainly told by its modern scientific name, puerperal *septicæmia*.

In some way the germs of the disease spread

from one case to another, nobody knows just how. Careless doctors, careless nurses, crowded maternity wards, are of course often to blame. Careful antiseptic precautions will certainly do much to prevent the disease; but in spite of all care and cleanliness, and of all antiseptic precautions, the disease may invade.

The invasion can sometimes be very plainly seen. The patient after a day or two, or even after several days, of normal convalescence, becomes hot and restless; or perhaps a sudden attack of vomiting comes on; or, as has just been said, a chill comes from a clear sky. On the contrary, the fever may so insidiously invade, that its full sway is established almost before its approach is suspected. The patient feels first-rate: indeed, that comfortable feeling almost belongs to puerperal fever. In answer to the doctor's "How do you feel to-day?" the patient, even to the last day of her life, will generally say, "Better." Now if the doctor's visit happens when the fever is in abeyance, (and daily remissions of the fever, though not usual, may yet occur,) then, unless the nurse has made and recorded accurate ob-

servations of her patient's condition during the previous twenty-four hours, the fever may escape recognition for another day. A great deal depends upon not affording the enemy time to intrench itself. Success in the battle against it depends greatly upon active fighting at the very outset. Vigorous measures in repelling the foe at the first hints of an invasion are next best to prevention itself.

A most important duty of the nurse, therefore, in the case of confinements, is to keep an accurate record of her patient's condition. In no other way can the nurse be of greater service to the physician in attendance in his efforts to insure the patient's normal convalescence. Of this record, the temperature of the patient, morning and evening, is the most important part. Clinical thermometers are expensive and easily broken; but they are invaluable, and nowadays must be included in the nurse's outfit.

Care must be exercised to shake down the index below the normal line before using. The temperature can be taken in the mouth between the tongue and under teeth, the glass

being held in position by the closed lips; or, with probably less discomfort to the patient, in the armpit. If the temperature is taken in the axilla, the thermometer must be so placed that its bulb is folded in by the flesh. It is easy to let the clothes slip in around the thermometer, or to let the bulb protrude below, and so fail to secure the real temperature. In very thin persons it is impossible to fold the arm snugly around the thermometer. Their temperature must therefore be taken in the mouth, the vagina, or the rectum. There are disadvantages in all of these ways. Taking the temperature in the mouth is the most inconvenient way for the patient. It gives, however, generally correct results; unless, indeed, the patient has just been eating ice, or breathes through the mouth while the thermometer is in place. It is somewhat wearisome for the patient to hold an arm snugly to the side, with the forearm across the body, as must be done if the thermometer is used in the axilla. And then the necessary exposure of the moist skin of the axilla, while placing the thermometer there, cools the surface so much that for several

minutes the real body temperature is not obtained. The disagreeableness of taking the temperature in the rectum or vagina is the main objection. There is no other way so reliable. Whichever way is employed must be continued and made a part of the record, for the temperature in the different localities mentioned may be expected to differ somewhat, that in the axilla being usually the lowest.

There is a great difference in the time thermometers require for recording the temperature. It is well to allow any of them three minutes. During that time the pulse may be taken. This seems simple enough, but few can count the pulse correctly. Not every nurse knows where to feel for it. The wrist, on the thumb side, is the usually selected place, because there the large radial artery comes near the surface; and the wrist can usually be found without disturbing the patient. The hand must lie loosely. Then, with the tips of several fingers lightly pressed along the line of the artery, which runs just inside the plainly to be felt bones on that side of the wrist, the radial pulse can be felt. It should be counted for a full

minute; and it is a good plan to remember what the count was at the first quarter and at the half minute, so that at the end the full count can be compared with four times that of the quarter, and with twice that of the half minute. In case of any great difference, the count ought to be repeated.

A less important record than that of either pulse or temperature, which still is sometimes worth having even in ordinary cases, if for nothing more than to prove that the patient's chest is all right, is the record of the number of respirations to the minute. This count needs always to be made when the patient is unaware of it, for our rate of respiration insensibly changes when our attention is drawn to it. Ordinarily these records should be made twice daily, and at definite times, — say at eight o'clock in the morning and at five o'clock in the afternoon. If any unusual symptom of fever should arise between these times, either in the day or night time, it is well to take and record the pulse and temperature at that time. But it is a bad plan to call the patient's attention unnecessarily to the condition of herself.

And here the question arises if the nurse should tell the patient what she finds the pulse and temperature. This must be decided by the general rule of giving to the patient as little as possible to worry about. To keep the facts from some patients would be the surest way of inciting fret and fever; while others perhaps would as lief know nothing about the records. The main point is, that the record should be plainly kept for the doctor's inspection.

On a separate sheet the nurse ought likewise to keep a record of the various events of the case. The number of dejections in the day, — the hours when urine is passed, certainly for the first few days, or so long as there is any trouble in this respect, — the times when medicines and douches are given, and the time passed in sleep, — together with any notes upon the general condition of the patient, — are subjects suitable for this record. This must be made if the case goes badly, and so serviceable may such a record become in event of any unusual progress of the case, and indeed so assuring will it always be if nothing unusual

does occur, that nurses are earnestly advised never to neglect it.

In previous chapters, the importance of the utmost cleanliness has been insisted upon as a precautionary measure in warding off puerperal septicæmia. It is impossible to give this caution too much stress. Besides the unsparing use of antiseptics in cleansing all objects brought near the patient, the need of fresh air, and of thorough ventilation, ought also to be emphasized. The old nurse who jealously shuts all doors and windows may be shutting in poisonous exhalations, as well as shutting out fresh air, and so really be taking the very surest means to bring on the deadly chills she so greatly fears.

Passing now from the subject of prevention of the fever, and from measures to detect its first approach, let us consider the course and the treatment of the disease.

As soon as the poison fairly enters the body some inflammation usually occurs of those parts most exposed to the poison. Accordingly, all kinds of inflammatory symptoms may present themselves. Swelling, heat, pain, and

redness are the four classical signs of inflammation. Any or all of these may be present in the external genitals; where, moreover, the wounded surfaces may become ulcerated, and even coated with grayish diphtheritic membrane. Or erysipelas may invade this region, and its dull purplish blush may spread over the surrounding parts, up the back or abdomen, out over the nates, or, less rarely, down the thighs. Any divergence from the normal appearance of these parts must therefore be noted, and at once communicated to the physician. More often, however, the inflammation is deeper seated. The lining of the uterus, for instance, becomes inflamed, and at once the character of the lochia changes. The substance itself of the uterine walls is perhaps the most frequent seat of the septicæmic inflammation; in which case the signs of swelling and of pain or tenderness may be the only signs apparent. If the inflammation extends to the peritoneum, that so sensitive lining membrane of the abdominal cavity, there is usually more pain and tenderness than in any other form. The belly is then bloated out, as indeed it may be, and

even more painfully, by simple flatulence. These symptoms, it must be remembered, are not here given with the idea of enabling the nurse to make the diagnosis, but that she may understand what usually happens in such cases. The presence of any of these symptoms, especially if the temperature is above 100° F., is reason sufficient for summoning the doctor.

When the poison has entered the system, the treatment consists, first, in active search for the source of the poison, with the purpose of arresting any further absorption, and, secondly, in measures for sustaining the patient's vital forces in their struggle with the poison.

When the physician makes his thorough examination of the genital canal, he will perhaps give an intra-uterine douche. Fortunately for the nurse, her duty never requires her to do this. She can, however, greatly help matters along, if she remembers just how to aid the doctor. The patient is to be brought to the right side of the bed, and is to lie on the left hip as at time of delivery, only now the buttocks must project even beyond the edge of the bed. The bed is to be protected, of course, by

the rubber sheet underneath, and, above the linen sheet, by some old blanket or other thick cloths. On the floor, and partly under the side of the bedstead, there should be a foot-tub to receive the wash water. During the operation the nurse will generally find opportunity to assist the doctor in managing the syringe, or perhaps in holding up the patient's right leg. At any rate, her proper position is at the doctor's left, and out of his light. In encouraging the sufferer, in giving her the comfortable confidence that there is some one near to look out for her and to keep her covered just right, the nurse after all will find her kindly services most needed. Perfect nursing is made up of just these trivial offices, almost defying any rules, yet requiring constant and sympathetic watchfulness.

In the second object of the treatment of puerperal septicæmia, namely, to support the patient's strength in the battle with the disease, the nurse's opportunities are boundless. Scrupulous attention to the medical directions, giving the food, the stimulants, as well as the medicine, in exactly the amounts and at the

time ordered, are, of course, duties belonging to the care of every case. In this disease there are also many extra duties; chief among which is the duty of keeping up the patient's courage, and not only hers, but the family's as well. Often the latter is no easy task. Nature gives us kind leading in the treatment, in disguising from the patient herself the serious import. Now it is defying Nature, (always our teacher, wise as well as kind,) to let the temperature chart or the treatment adopted fret the family, and so the patient. It is no sort of medicine for the poor woman, fever-laden and sick unto death, to have her mother or husband come to the bedside as if it was an open grave. There is only one way, only one safe rule, which is, Never give up the ship. A nurse who loses self-possession, and goes round the house in a plainly hopeless way, ought always to be discharged. Such nursing is worse than none. Let the medicine be given never so promptly, there is an inevitable passage of the nurse's discouragement into the patient's brain. From peaceful, careless oblivion, perhaps, she starts into an anxious questioning state: "Am I go-

ing to die?" she asks. Far better not to have let her catch your fears.

In this childbed fever, while appearances are often deceptive, and a fatal end is approaching when apparently the patient is better and feeling bright and almost well, yet, on the other hand, patients do pull up out of very deep, dark valleys, that seem surely shadowed by death. At any rate, it is the physician's, and not the nurse's, duty to speak with the patient or with the family about the seriousness of the condition. It is the nurse's part, first, last, and at all times, to keep cheerful, and to bolster up the courage of all about her.

The most flagrant folly possible is to take it for granted that the patient is dying, and so to stop giving medicine and food, and to neglect generally caring for the patient's condition. For this a nurse is simply inexcusable. If the husband takes it upon himself to stop "bothering" the patient with the whiskey, for instance, then let it be clearly understood that he is the doctor's lieutenant, and that the nurse is relieved of duty. But so long as she is in charge, let the treatment go on uninterruptedly. Special mod-

ifications may become necessary. Instead of the feeding-cup, the teaspoon — and that perhaps only half full — may have to be used in giving nourishment. No matter how divided the doses, nor how tedious the giving of them, keep it up.

As a patient becomes very sick, instead of the bedpan, it may be necessary to use cloths which can be removed as soon as soiled or wetted. The cotton waste, already recommended, is just the thing to use for this purpose. However often change is needed, there must never be any hesitation in changing thoroughly, and so keeping the bed dry and clean. It is a great mistake to assume that the patient is too sick for this. The fact is, the sicker the patient, the more important it is that it should be done.

One more caution: and that is, never to act or to speak before a very sick patient otherwise than as if she was to understand it all. This caution is especially to be observed in cases where the patient is slightly delirious or unconscious. Aside from the chance of such patients catching the import of what is not

meant for them, there is the more serious danger of their half catching, and then misconstruing, the meaning, There is always room outside for consultation. No mysterious signs and hints and whisperings are ever to be tolerated in the sick-room.

Milk Leg.

Swelling of the feet and legs during pregnancy is no uncommon thing, and may be due either to the pressure of the gravid uterus upon the great veins which conduct the blood from the legs, after its entrance into the pelvis, or to the interference of the same pressure with the secretion of the urine. Such swelling would naturally diminish after delivery of the child. An entirely different swelling of one or both legs comes on occasionally after delivery. The leg is not only swollen, but hot and exceedingly painful. It is always white, whence the name, probably, of milk leg; and doubtless the old-style nurses fully believed the milk settled in the leg. The trouble lies in an inflammation of the deep tissue of the leg, and often of that tissue immediately surrounding the veins.

The veins are sometimes occluded. Sometimes deep abscess results. More often, however, the inflammation subsides without any ill results. Still, there is one great danger. On account of the interruption of the venous circulation, blood clots may be formed in the veins, which are liable to be dislodged, and, if so, to be washed back into the heart and lungs, where they are almost sure to cause terrible mischief. This danger has been alluded to before, in connection with the possible dislodgment of clots in the uterine sinuses.[1] There is only one safeguard that can be used, and that is to keep the patient absolutely flat and at rest. This is imperatively demanded.

Then, for the comfort of the patient, as the suffering is often great from this affection, the legs are to be wrapped in cotton batting and laid upon feather pillows. Even the weight of the bedclothes may be more than can be borne. In such cases, some cradle-shaped frame must be improvised to relieve the legs of this weight. The greatest gentleness must be used in handling the legs, which, indeed, must be done as

[1] See page 111.

little as possible. The leg, it will be found, rests easier if cushioned so that the knee-joint is slightly bent. This can be managed by putting in an extra prop just under the knee.

Breast Abscess.

It is in the prevention of this affliction that the nurse has her great chance to shine. Still, abscesses will sometimes come in spite of the best precautions; and they may come even before confinement. The treatment belongs to the surgeon. Lancing is inevitable, and generally the sooner it is done the better. In the same way, in any kind of abscess, when pus underneath is shown by the redness of the swollen surface, by fluctuation on feeling, or by the boggy condition of the flesh, where it pits on pressure, the only relief to be expected is in the free escape of the pus. All nostrums for caked breasts, all liniments and ointments, though they are named after the saints, are useless, except as poultices or fomentations to soften the integument, and to hasten the destruction necessary for the escape of the pus. It is no kindness to the patient to help her

hide the angry spot from the surgeon's knife. But it is never the nurse's business to tell the patient what she thinks the doctor will do. Her business is simply to tell the doctor what the condition is.

Before the breast is lanced, it may be well to poultice it. Of this, however, the doctor alone is judge. The nurse must never poultice the breasts without orders. After poultices are ordered, while there is no question of their usefulness, yet considerable skill is required in their application in order to bring into effect their intended comfort. The poultice, rightly made, must be put on just as hot as can be borne. If the nurse's cheek can bear it, the patient's breast can; however, it is to be remembered that the surface of the poultice is cooler than its middle, which the patient will realize after the poultice is applied. So a poultice is not to be bandaged on until it has lain in place for several minutes. With the breast-bandage already described,[1] it is possible to secure a poultice to the breast without undue pressure. On removal of the poultice, the

[1] See pages 124, 125.

skin is to be wiped, and the wound washed. This is best done by allowing clean warm water to run in a gentle stream upon the wound, either from a Fountain syringe or from a sponge. A basin having a concave side to fit closely under the breast, to catch the wash water, is worth all the trouble it takes to get it. After this washing, the borders of the wound are to be gently wiped, and the surrounding skin made thoroughly dry. The fresh poultice is then immediately to be applied. Herein is the difficulty, — to have the fresh poultice ready of just the right heat. The way to manage it is to roll up the poultice as soon as made, and then to wrap it in flannel. In this way its extra heat can be kept much longer than the time required in preparing the patient for it. The poultices should be changed at least as often as every four hours.

After poultices have been discontinued, the healing wound should be washed as above, at least once a day, and then dressed with a piece of soft linen well smeared with vaseline or simple cerate. Under nice treatment, even a breast abscess is not such a horrible thing.

But when the poultices are at first too hot, and are then left on till cold and soggy, and the bed is wet with the wash water, and the leakage from the poultice or from the wound itself is allowed to foul both patient and clothing, it seems as if there could be nothing worse.

Abscess of the Vulva.

While in the main the treatment of vulva abscess is the same as that for abscess in any other locality, there is the complication of the lochial discharges to interfere somewhat with applications to the abscess. The poultices, if employed, are to be applied as much as possible to the side affected, and may be kept in place by a bandage around the thigh, together with the common T bandage around the waist and between the thighs. The napkin can then be applied as usual, and, if the patient lies on the well side, the lochia will not be so likely to interfere with the abscess dressings. Cotton waste soaked in carbolized oil makes a nice dressing for an abscess of this kind.

Bed Sores and Chafing of the Skin.

Here, again, it is the prevention of the affliction that mostly concerns the nurse. Bed sores, except in cases of prolonged confinement and extreme emaciation, are a disgrace to the attendants. The proper means of prevention consists in keeping the parts on which the weight of the body rests absolutely clean and dry. Washing the nates and the hips with spirits of camphor and water, or with vinegar and water, toughens the skin. After wiping dry, the skin should be anointed with olive oil or vaseline, well rubbed in, and, lastly, oxide of zinc powder should be dusted on.

Pains must also be taken to keep wrinkles out of the bed. Smoothness of the bed is of more importance than softness. If the parts of the body exposed to long-continued pressure turn black and blue like a bruise, there is great danger of sores resulting. Pillows can be arranged to relieve these parts of the body's weight.

The treatment of the sore will be directed by the physician, but the nurse will be expected to carry it out. Thorough cleansing is

the first requisite. If there is sloughing, poultices may be needed. When the sore is clean, some mild ointment is used.

During confinement there is of course, besides the liability to diseases peculiar to this condition, the same liability to other diseases as at all times and in all conditions. And, as might naturally be supposed, these diseases if incurred during confinement are far more dangerous than at other times. Thus, for instance, scarlet fever, if it occurs early in the confinement, is generally fatal. Other fevers, such as pneumonia, typhoid, and malarial fever, are less profoundly aggravated by the puerperal condition. The treatment of these diseases is so nearly the same as they require in other conditions, that any detailed description of it is obviously outside the province of this book. Nevertheless, the mere mention of them should remind the monthly nurse that acquaintance with general nursing may sometimes be of great importance to herself and to her patient; and this much at least ought not to be forgotten, — that unusual symptoms ought always to be noted and definitely given to the physician.

Puerperal Mania.

In closing this melancholy chapter of ailments which nurses may devoutly hope never to see, it is necessary to mention this most distressing of all affections. The reduction of strength due to pregnancy, to labor, and to the various drains upon the system during the confinement, doubtless causes the mental impairment in many of the cases. Any predisposition to insanity is then liable to be enhanced. In some cases, it is the drain of lactation that causes the mental trouble. For these reasons, it is plain enough that all worry should be banished from the lying-in room.

Delirium is not uncommon in puerperal fever itself, or in any of the other fevers happening during the confinement; but as a general rule it is wonderful how long the puerperal patient retains her mental faculties even when her temperature is extraordinarily high.

Prolonged suffering of any sort is apt to disturb the mental balance. Accordingly, when the patient is greatly exhausted from any cause, puerperal mania is more than usually to be

feared. The phenomena which it presents vary greatly. Sometimes there is simply a low, quiet delirium, hardly noticeable except in the patient's irrationality when roused. Again there is the jolly, excited delirium, when the patient feels as well as ever and wants to be up and about. Lastly, there is the melancholic variety, where the patient takes violent dislikes, and distrusts her best friends. These different forms, together with many others that need not be described, are interchangeable, the patient exhibiting them all in succession.

The treatment falls wholly upon the nurse. There is no advantage in family expostulations, and the doctor's control follows him out of the door. The nurse may be harassed by the patient's hatred and abuse. Her duty is plain. Help she may have to demand; but so long as she is in charge, her responsibility is enormous. In the first place, the baby is to be taken from the breast at the first signs of mania; and only with the greatest care, and when the mother evidently desires it, is the baby to be allowed in the presence of the patient. The drain of lactation is thus stopped at the start. The

breasts ought then to be strapped up in the double Y bandage, to obviate their uncomfortable turgescence. Another reason for keeping the baby away is its danger from possible maniacal outbursts of the mother. The one great rule never to be forgotten is, that an insane patient is never to be left alone even for an instant. There are no exceptions, no excuses. The woman may be perfectly quiet and apparently sleeping, and yet stealthily waiting for the attendant's back to be turned that she may jump through the window, to dash herself in pieces, or to escape for a mad race through the town. A sensible precaution against just this calamity is to have a screw driven into the window casing so as to prevent raising the sash more than the few inches needed for ventilation. It may be well also for the nurse, while in the room, to keep the door locked. But generally the key had better be taken out of the door altogether, or the patient, with insane cunning, may be quick enough to bound out of the room and to lock the nurse in. These and other like precautions, however, are of secondary importance. The main thing is to keep an incessant

watch of the patient. Whoever spells the nurse is under the nurse's orders, and for every minute and every second of the twenty-four hours the nurse is personally responsible for the patient's safety. The family may be wholly ignorant of the danger. The nurse is entirely inexcusable if she does not recognize it, and act accordingly.

Treatment consists mainly in rest. Dry cold applied to the head, by an ice poultice, for instance, may soothe away the wildest delirium. An important factor in the treatment is to keep up, or even to increase, the nourishment. If the trouble is caused, as it may be, by excessive drain upon the physical condition, then to give extra supplies of food is rational treatment. The appetite can no longer be depended upon. At one time ravenously hungry, the patient the next day may be wholly indifferent to food. The nurse must therefore take care that an abundant diet is provided, and all her ingenuity must be exercised to make the patient take it in regular amounts and at regular intervals.

The moral control of the insane is by no means the least important and the least hope-

ful part of the restorative treatment. Its exercise depends upon its possession. Entire self-control, perfect patience, and tact, as well as common sense, are pre-essential qualities in one who hopes for this power. In all relations with the patient, entire honesty is the only policy. She may be treated as a very sick woman, and as one irresponsible; but not as if a fool. Square dealing and firmness will tell in the long run in establishing that control which any deception fatally prevents.

The highest success in the care of the sick depends upon the nurse's sacrifice of self. Only so can we become anywhere nearly perfect agents in transmitting that recreating influence which as Christians we believe comes from the kind Father of us all. And all measures undertaken for the comfort and cure of patients in our care have increased effect if their Source is never forgotten.

"Ask God to give thee skill in comfort's art,
That thou mayst consecrated be, and set apart
Unto a life of sympathy.
For heavy is the weight of ill, in every heart
And comforters are needed much
Of Christ-like touch."

CHAPTER VIII

THE BABY.

WHILE attending to the mother, the nurse ought occasionally to listen for the baby's breathing inside its blankets. A smothered cry every now and then is reassuring. There is no danger of suffocation: only very little air is needed, — no more than easily passes through the old, soft blanket; but there is danger of cold, and the precious bundle should be placed near the stove or register. This precaution becomes imperative when the wraps are taken off and the first bath is given. If there is no fire even in the kitchen range, the bath must be delayed until there is some corner ready, very warm, and entirely free from draughts. The only need of hurry about washing the new-born baby is, that, when undertaken, it must be done speedily. The bath most certainly is a refinement of

civilization. Our savage ancestors, if they were ever washed, probably were allowed rest and warmth for their first few days. Yet doubtless they at birth were vastly stronger than modern babies; and it is not worth while nowadays to endanger a baby's life by exposure that savages or even wild animals would save their young. The too common practice of washing the baby as soon as born, in a room only comfortably warm for grown people fully clothed, and perhaps prolonging the bath and dressing through the first hour or so of the baby's existence, is barbarous. Great pains should always be taken to make the exposure as slight and short as possible; and for a very delicate baby, especially if prematurely born, it is a question if it is not better to dispense with the bath until the new-comer becomes somewhat accustomed to this hard world. Such a baby ought rather to be generously anointed with olive oil and wrapped in cotton batting.

But let us consider first what shall be done with the fine, lusty baby, covered with primal lard, thrashing about in his grandmother's lap, and crying for no other purpose than to inform

the neighbors that a child is born. In order to work expeditiously, the materials must be within easy reach. Better it is to spend a few minutes in arranging the baby's clothes on the table or chair in just the order wanted, than, with a half-dressed baby in one arm, to pull away at one bureau drawer after another in search of a shirt.

The water for the first bath must be very warm (100° F.), and there ought to be several inches of it in a small tub. On the stand should be the white soap, an ounce or two of olive oil in a saucer, and the powder-box.[1]

The nurse, with an old blanket in her lap, and her rubber apron, if she is so well provided, under that, is now ready. Holding the baby's neck and head between the thumb and forefinger, with the rest of her left hand supporting its back, the nurse's right hand is free. With the exception of the upper face, the baby is now to be thoroughly anointed with the oil, or vaseline, or lard, great pains being taken thereby to soften the *vernix caseosa*, or cheesy varnish, on the scalp and in the folds of the

[1] See page 18.

skin. Then with a soft dampened cloth wipe off the greasy mixture. This having been done, the face is to be washed first, before any soap is added to the water. No matter how much clean water goes into the eyes. With the cloth over one finger wash out the mouth. With the cloth now thoroughly soaped, or with the cake of soap itself softened by immersion in the hot water, the baby's coat of oil is to be changed into a lather of suds. A few minutes at most is time enough, and now a moment in the tub will suffice to rinse the baby clean. Let the soiled lap blanket give place to one warm and dry; with gentle pressure of soft, warm towels, thoroughly dry the little body; and be sure before going on to the dressing that the feet and hands are not blue with cold. From this time on till the next bath the baby is not to be wholly uncovered. The dressing blanket can easily be kept around the legs, or around the arms and upper body, while the nurse, for instance, is dressing the cord. Such precaution may be of vital interest to the baby.

If babies could articulate their complaints, they would surely scold their nurses well for

the common way of dressing the cord and navel. No adult would be so maltreated. Just think of it, — a greasy, foul-smelling mass tightly pinned down on the belly! Nowhere else has ignorance so long held sway. The old-fashioned way was to burn a hole in a piece of cloth, through which the cord was to be slipped. A fondly cherished relic of this practice is the notion that burnt cloth has a salutary effect upon the navel. This is sheer nonsense. If left to itself, the cord withers and separates from the navel as naturally as does a leaf from the tree. If it is greased and besmeared with half-burnt rags, instead of a natural inoffensive separation there frequently results a nasty sore. Such a sore of course demands thorough cleansing, and the application of some mild ointment. By proper treatment, however, this need not happen. The cord, like every other part of the baby, must be kept thoroughly clean and thoroughly dry. After each washing it is to be wrapped around with a wisp of absorbent cotton, which at the next bath will wash off easily. On no account is the separation of the cord to be hastened.

In a few days it will drop off. And generally the longer it holds on, the better it is for the navel.

The cord thus dressed is to be laid to the left underneath the belly-band, because of the baby's liver in the right of the abdomen, which needs all there is of room on that side. The belly-band is to be pinned behind with at least three safety pins, which should lie crosswise of the body, — as, indeed, should lie all safety pins used in dressing the body of the baby.

Before proceeding further in the toilet, it is well to dust a little powder over the baby's body, especially in the armpits, in the groins, and between the thighs and nates. Now then for the diapers. One large diaper, soft and thick, is enough. If two are used, the inner one is to be folded square and placed *squarely* inside the outer one, which of course is to be diagonally folded. This exception to common practice is in order to avoid the lump of the diaper's angle that otherwise would come in the small of the baby's back. The three angles of the large diaper can easily be fastened with one stout safety-pin to the belly-band in front.

The baby is now ready for the long-sleeved knitted shirt. Baby socks are a useless nuisance. The long pinning blanket, fastened behind, folded up over the legs, and again pinned, will keep the feet warm and out of visitors' way. The lovely socks can then be kept on the mantel for exhibition, or in the bureau alongside the beautiful and useless dresses.

A warm, square blanket, with one angle to come well up over the back of the head, and large enough to wrap snugly around the little body, completes the robing. The baby is then to be laid on its side in some warm bed, and left. Let it cry itself to sleep, if so it pleases to do; at all odds, let it alone. The baby is to be pitied who cannot even breathe out loud that it is not directly caught up and jounced about, to say nothing of being half drowned with peppermint water.

So much for the first bath and dressing. In making the toilet subsequently, there is need of little change in the directions just given. The diapers need constant attention, although very likely, from the pressure at time of birth, the

meconium — i. e. the dark green fæces of the newly born — will have so evacuated the bowels that they will not again move for some time. The bladder, too, if not emptied then, will probably have been so in the bath. However this may be, the careful nurse will make sure on the first day, as always after, that the baby does not remain any longer than can possibly be helped in soiled or wetted diapers. And whenever the diapers are changed, the parts of the body soiled should first be wiped clean with a cloth moistened in hot water, and then thoroughly dried by pressure with a soft warmed cloth, and lastly dusted with the baby-powder. The diapers must be clean as well as dry.

Sometimes, but fortunately very rarely, a baby is born with an imperforate anus or urethra. In these respects, therefore, as indeed in all others, it is the nurse's business to make sure at the time of the first bath whether or not the child is perfect. Any imperfections discovered must be directly communicated to the physician, and not to the family. Very often, however, the baby perfect in every way

will not pass fæces or urine in the first day after birth, and not freely for several days after. The baby may for this reason suffer great pain. The constipation is naturally relieved by the colostrum, or first milk from the mother's breasts. If that is not to be had, it is a common practice to give to the baby some other laxative. But this is the physician's, not the nurse's business. She may, however, on her own responsibility rub the abdomen with olive oil, or insert a conical soap suppository in order to produce a discharge from the rectum. This suppository can be whittled out of Castile soap. It should be about the size of the last two joints of the nurse's little finger.

If the urine does not pass freely, after making sure that the urethra has its proper outlet, cloths wrung out of hot water may be placed on the baby's back, and also on the abdomen over the bladder. It is very seldom, however, that this or anything else is needed to start the flow of urine. Unless the baby is in evident pain, the nurse need not worry about it. And yet it is ridiculously common for the physician's attention to be called to this bugbear.

For the first few days after birth the baby's urine is naturally high colored from the excess of urine salts excreted. So deep is this color often that the diapers are stained by the urine. Sometimes, too, bloody urine is passed; and, again, it sometimes happens that blood is passed from the rectum. In neither case is the distinctive red color of blood so apt at first to appear as a coffee-color in the urine, or a black, tarry appearance of the fæces; for blood in the intestine and in the bladder soon decomposes, thereby losing its red color. Any evidence of blood in the urine or in the fæces is a serious symptom.

A strong, healthy baby ought to be bathed daily in comfortably warm water. After the first bath, little soap is needed. The bath must be quickly given, that the exposure may be as slight as possible. In the daytime the fine dresses go on. If slipped on from the bottom, they will be less crumpled and the baby less disturbed. The dresses and the skirts should all fasten at the back, so that the baby while being dressed can lie on its belly and be turned about as little as possible. Care should always

be taken to keep the head from falling backwards when the baby is on its back. Before the change of day-dress for night-gown is made, the baby must be entirely undressed, and the little back must be gently rubbed, and the toes toasted before the open fire. A change of shirt and pinning blanket is of vastly more importance to the baby's comfort than is the change of outside gown.

The best care of a baby from the hour of its birth till — who shall say for how long? — means only that it shall be kept warm and dry, that it shall have suitable food, a plenty of fresh air, and sufficient rest. Simple enough, and yet how few have this care! Take, for instance, this matter of the needed rest. How often the baby's eyes are dazzled by glaring sun or artificial light, how often its ears are jarred by the noise and racket of the world, and this, too, before it has had any chance to grow accustomed to these strange sights and sounds!

For the first few weeks the baby ought to sleep by far the greater part of the time. As has been said above, after making sure that the baby is comfortable so far as warmth and dry-

ness are concerned, it is to be laid down and let alone. From the very first, no matter how much the mother or nurse may be tempted to do otherwise, the baby is not to be put to sleep except in this way. Babies acquire habits, good or bad as may be, with astonishing rapidity. Just rock the baby to sleep a few times, and it will almost convince you of the doctrine of original depravity when next again you try to make the baby go to sleep alone. Not he! He has learned a different way of doing it, and now, unless the battle is fought on the spot and won, he will not go to sleep alone till he is perhaps ten years old. Nor is it by any means only in the matter of sleep that bad habits will fasten themselves, as if by magic, upon the originally well-disposed baby. Let the breast or the bottle be given to a baby, not only when it is known to be hungry, but at any time when it cries: of course the baby will suckle. With touching confidence the mother is trusted to say when. But the result of this constant solacing is frightful. The baby soon becomes a dyspeptic tyrant, and the mother a spiritless, colorless slave.

Let it not be thought that the baby needs no petting, no motherly caresses. By no means this. Indeed, of two nurses who do equally well by the rules, one will succeed wonderfully with her babies and the other will fail, not for any apparent reason except that the one loves the baby from the beginning and instinctively makes the baby feel it, while the no less worthy but nevertheless very much less valuable nurse has no such love for it, and the baby feels the lack.

This natural motherly love for the helpless can be fostered or sacrificed, according as it is valued or ignored, as it is used or buried. Of all her possessions this is the nurse's most precious and most to be cherished. Pet the baby, then, as much as you choose, but *not* by helping it to go to sleep. Never waken the baby, nor let it be wakened for exhibition. Remember that the baby needs rest and quiet.

When the baby is laid beside its mother, it should never be laid at the mother's back. Many a baby has been smothered by its soundly-sleeping mother rolling upon it. Even

if the baby cries a little, it is not well immediately to take it up. But if the crying is persistent, no pains must be spared to discover the reason of it. See if the clothing is all right. Perhaps a pin has become unfastened and is pricking the tender skin. Such accidents have happened. The feet may be cold, the diapers wet; or the baby may simply be in an uncomfortable position. Very likely there is colic or wind in the stomach, as the old nurses will have it. If so, the knees will be drawn up and the cry will be agonizing. A sip of hot water sweetened, and well flavored with essence of peppermint or of anise-seed, will help "get the wind up." Taste the mixture before giving it to the baby, to make sure it is not too hot. Use another spoon in so doing. Hot flannels pressed to the abdomen will often give relief from colic pains. But pressure, after all, is the surest to succeed. And the old nurse way of wrapping the baby in a warm blanket, resting its abdomen on her knee, and then trotting it up and down, is not a bad way of doing. This practice, however, should not continue after the baby is quieted,

if it is hoped ever afterward to put the baby to sleep in any other way.

There are thus many reasons for the baby's crying besides that of hunger. And not only in many cases will feeding fail to relieve, but in some cases it will even aggravate, the trouble. For instance, in case of colic, which itself may very likely be caused by injudicious feeding, the very worst treatment would be to give the child the bottle or the breast. Still, a baby's stomach holds very little, and must often be filled with proper food. It is a great mistake to suppose that any other food is anywhere nearly so good for infants as breast-milk. If the mother cannot nurse her baby, a wet nurse should be had if it is in any way possible. Especially is this desirable for a baby born in the spring. The summer is very apt to go hard with bottle-fed babies. If a wet nurse cannot be had for the whole time, even one daily meal of breast-milk will be of great advantage to the child. The notion that it is bad policy "to mix the two kinds of milk" is false. The right rule about choice of food is to give to the baby all the breast-milk that can

be had, and to supplement it with other milk if need be.

The questions of when and how often to put the baby to the breast have already been discussed.[1] Often it requires a deal of knack, and patience too, on the nurse's part, to make a baby suckle, and this even if the breasts and nipples are in perfect condition. The main requisite is that the baby shall be hungry. Otherwise it is too much to expect that it will nurse. But even when hungry the baby will sometimes give no end of bother about it. All sorts of positions must be tried, and the baby's head must be so held that it cannot jerk backwards. Care, too, must be taken that the nose is not so pressed into the breast as to suffocate the baby. It is of no use to continue the struggle when the baby is screaming. Wait a while, and next time very likely the baby will be lamb-like. None of us like to have even blessings crowded into us.

When it comes to giving the baby other food than breast-milk, dangers thicken. Cow's milk is then the main reliance; and how unreliable

[1] See page 129.

that is, few know. There is almost no possibility, in the larger towns and cities, of obtaining pure milk from properly fed cows. And, indeed, there is no demand for such milk. Ignorance of what good milk is gains ground; but such ignorance is not blissful where babies are prized.

The desirable points in wet nurses need not be discussed here. The points about cow's milk ought to be more generally known. To begin with, then, milk from a herd is more likely to be of even quality than is the milk from a single cow. This more than offsets the questionable advantage of having a single cow's milk of the same age as the baby's mother's milk would be. There is far greater difference in the quality of different cows' milk than there is in the milk of one cow at different months after calving. Again, cow's milk varies greatly according to the kinds of feed given. Herein is one cause of the poor quality of city milk, which usually is from cows forced to produce the utmost amount daily. A more serious cause of its poor quality is the general adulteration of the milk. Milkmen in this vicinity color their milk, and openly

maintain their right so to do. Many of them sell the cream from the top of the can, and so fix the skimmed milk that it appears all right. What water they may add to it of course does no harm, if only the dilution of it be known. Nor is there harm, probably, from the ingredients employed to give rich color and consistence to the milk. For adults who depend upon a varied diet, adulterated milk may be even more acceptable than is the pure article. But for babies, whose growth, and for that matter life itself, depend entirely upon milkmen's milk, it is a most serious evil if that milk is of poor quality. Its rich color and creamy consistence are valueless to them. The gist of the matter is, that the milk furnished to the family may suit them very well, and yet the milk may be of such poor quality that the baby will starve on it. This is one reason why breast-milk is so much more likely to suit the baby. Another and more important advantage of breast-milk is in the fact that, besides its freedom from adulteration, it is delivered to the baby before it is fermented. Neither is it too hot nor too cold.

Enough, it is hoped, has now been said to convince the nurse that it is no easy task to attend to the diet of a bottle-fed baby. The main point is to imitate as closely as possible the natural feeding, both in the quality of what is given and also in the manner of giving it. Too rich cow's milk is worse for the baby than too thin milk: upon the latter the baby will not thrive, but upon the former it will suffer all the woes of indigestion. Therefore Jersey cow's milk is not so desirable for the baby's food as is the milk from more ordinary breeds. Even the milk from common native cows, provided of course that their milk is not forced by over-stimulating feed, needs dilution to make it like breast-milk. Then it also needs sweetening, and for this purpose sugar of milk is better than cane-sugar. Only general rules for the proper amounts of dilution and sugaring can be given, and in every case the nurse should ask the physician for definite instruction in this matter. During the first twelve hours, the baby needs only sweetened water. Then a fourth part of milk may be added. During the first week, the mixture of milk and water may

be half and half. After a fortnight, only one third part water need be added. This may be reduced to one fourth part by the end of the month; and this amount of dilution may well be continued for the first six months. The amount of sugar to be added cannot be so definitely stated. The mixture should be slightly sweetened, and the amount of sugar gradually lessened till at the end of the first month none need be used. The baby's food should always be given warm, at as nearly a temperature of 98° F. as can be. If frequently tested by the thermometer, the nurse can soon learn to guess very nearly the proper temperature of the milk on tasting it.

From the breast the baby gets its food slowly and only by considerable exertion. Therefore in artificial feeding the milk must not be given too quickly nor too easily. This brings us at once to the question of the proper kind of nursing-bottle. The fashionable article has a long rubber tube between the bottle and the nipple. It is an abomination. Every one of them ought to be swept from the face of the earth. Nothing is more pitiable than the com-

mon sight of a sickly baby sucking wind from this foul tube; for it is a physical impossibility to keep it clean. Let the mother who thinks me mistaken slit the tube from end to end, and then smell the inside of it. Even if there is no sour smell, there will surely be a scum fastened to the rubber, or between the rubber and the glass at the joints. This foul scum is the hiding-place of ferments, or of putrefactive germs, that damage the milk and often thus kill the child who drinks it. All receptacles of milk have to be scalded often. Why? To kill these germs, or ferments as they are called. Now it is exceedingly important that the baby's milk shall reach its mouth unfermented. No nursing-bottle, therefore, ought to be used that cannot be thoroughly scalded daily; and no rubber attachment ought to be used that cannot be thoroughly scrubbed both inside and out.

The only satisfactory nursing-bottle is a simple glass bottle with a slightly flaring neck, over which the rubber nipple can easily be fastened. Black rubber nipples should be used, as that is the color of pure India-rubber. After

using, the rubber nipple is to be scrubbed both inside and out, and when not in use is to be kept in saleratus-water, — made by adding a teaspoonful of cooking-soda to the tumbler of water. If the holes in the end of the nipple are too large, a wad of cotton wool must be stuffed into it at each using. When the bottle is full and is held upside down, the milk should not run out in a stream, but only drop by drop. Directly after each using the nursing-bottle must be thoroughly washed out. Once daily it must be scalded; and when not in use, it may well be kept full of clean water. Remember that upon faithful antiseptic care of it the baby's health, and life perhaps, depend.

Fresh air is as necessary for the baby as it is for grown folks. Modern houses are seldom decently well provided with this necessary. In fine weather the baby ought to have an airing out of doors. There are few days in the year when this is impracticable. Even when the temperature outside is below the freezing point, both baby and nurse will be the better for a short promenade on the sunny side of the house. The only precautions needed are that

the baby shall be warmly clad, and its face protected from the sun and wind. This daily airing is a magic medicine for no end of ills; and it is a sad certainty that many babies pine away for lack of fresh air.

Babies often suffer also from thirst. A sip of cool water refreshes, and never hurts them. It should be offered to them at least once every day.

The diseases of infancy are few. By far the most of the baby's woes result from mismanagement, and need, therefore, only preventive treatment. Thus, for instance, if too much food be given, the baby either vomits up the surplus or discharges it undigested from the bowel. Green dejections may of course also be caused by improper quality of the food. In the breast-fed baby vomiting and diarrhœa accordingly mean very little, — only that the baby nurses too freely. But in the bottle-fed baby the same symptoms may mean that the food given is of unsuitable quality. Very likely the milk is slightly acid. If so, a tenth part of lime-water or a small pinch of cooking-soda added to the bottle of milk will often end the trouble.

White patches frequently come in the baby's mouth. Their remedy, or rather their prevention, is in gently washing the mouth each day with a very clean soft rag and cold water. These white patches are generally milk crusts. Rarely they are a fungous growth: then it is "thrush," and the white patches will not give way to simple washing, but may even spread on to the mother's nipples. The remedy is a wash of borax-water, which the nurse can easily make by dissolving twenty grains of powdered borax in one ounce of water, — or about a teaspoonful of the powder in a tumblerful of water.

A slight eruption on the baby's skin almost always occurs. It will surely appear if the surface is kept hot and damp. Cleanliness and dryness are the remedies. The latter can be promoted by using the baby-powder. Not seldom the baby's skin is jaundiced for a few days, and generally this means little; but it is a symptom sometimes of serious trouble, and therefore should always be reported to the physician. On account of the over-activity of the sebaceous glands in the baby's skin,

(which secrete the vernix caseosa or water-proof suit that the fœtus needs while in the liquor amnii,) a scaly crust is liable to grow on the baby's scalp. Anointing with olive oil an hour before the bath will so soften this crust that it can easily be washed off with mild soap. But this must be very gently done, or the delicate skin will be provoked into an inflammation which will make the crust even worse.

After the separation of the remnant of the cord from the navel, there may occur an abnormal protrusion of the navel. If a knuckle of the intestine thus pushes out, it is an umbilical hernia, which must be cured by pressure. A large button-mould neatly stitched into the belly-band, with its convex surface next the navel, serves very well for this purpose.

Occasionally milk is formed in the breasts of the infant, and, curiously enough, this more often happens in male than in female infants. If let alone, the swelling and redness of the breasts generally disappear. On no account, therefore, should they be manipulated.

Sore eyes, on the contrary, must not be let alone. Sometimes such neglect results in their

destruction. Cleanliness is the remedy. The physician very likely will recommend some eye-wash; but the nurse will have to attend to its use. It is not an easy job to wash out the pus that may gather inside the lids. The baby will resent it with heart-rending cries. Let the operation, therefore, take place away from the mother's hearing, if possible.

CHAPTER IX.

EMERGENCIES.

In this chapter will be discussed those sudden crises where her patient's relief, and sometimes life, depend upon the nurse's self-possession, and her knowing just what to do. No time is there then to hunt for this information in books, or even in remote corners of the memory. In order, therefore, that the few rules of procedure in such cases may be understood and be ever kept ready for instant use, the various emergencies liable throughout labor and confinement are here brought together.

There is no better way of preparing for emergencies than that of imagining them as already occurring, and then deciding in one's mind what ought to be done. By so doing, one's knowledge is kept in serviceable order. If there is any doubt about any step, there is

then time to study it up. The nurse who occasionally employs her leisure in this sort of mental exercise is a wise woman.

Syncope.

One of the commonest accidents, which yet never fails to alarm the by-standers, is a fainting fit. The scientific name *syncope* literally means falling in a heap. The patient is ghastly pale, unconscious, powerless to move. The pulse and respiration almost fail. No wonder the anxious friends fear she is dying. While they rush off for doctor, parson, brandy, or what not, the nurse has opportunity for sensible action. What shall she do? Blind rules are of little use; indeed, they often seem to be contradictory. Thus, in the present instance, one rule says, "Push the fainted lady's head down into her lap," while another rule equally good says, "Take the pillows out, and let her head lie low." In fact, both rules work well. Only one is to be followed in the pew, — the other in the bed. Opposite as the procedures seem, they have the same reason. This reason is intelligible only after understanding what a faint

really is. Let this then be our first question to answer.

The loss of senses, of color, of breath, and of pulse, is all due to trouble in the blood circulation. This trouble may be caused by direct loss of blood, or by nervous derangement from shock, fatigue, or the like. Of all parts of the body, the nervous centres themselves are most sensitive to interruption of their blood supply. To afford these organs — the brain, and the upper part of the spinal cord — the needed blood is the main object of all treatment for syncope. Crowding the head down between one's knees floods the brain with blood. Try it. So, too, letting the head lie low, especially if the foot of the bed be raised, gives the starving brain all the blood possible. Remember that, when the patient has flooded almost her deathbed. If the faint has merely a nervous origin, this same despatch of blood to the head can be effected by rousing the heart's action. A dash of cold water in the face, vigorous fanning, cologne or ammonia salts to the nose, or alcohol to the lips, will bring a gasp, and the flush of returning blood.

Prevention is better than cure; and it is well to remember that a body strained and wearied, as it often is by pregnancy and child-bearing, is over-sensitive to all the emotional and nervous causes of syncope. It is a nurse's duty, therefore, to protect the patient from all sounds and sights and thoughts that might so affect her. In case the faint occurs, the lady is to be so laid that the circulation of blood to the head shall be aided. Fanning is eminently proper treatment. Restoratives, such as have been mentioned, may be used. In general, and especially when there has been loss of blood, it is well to be satisfied with partial restoration. Gentle breathing and a steady pulse, however feeble, are quite enough. Any rude forcing to consciousness is very injudicious.

Chills.

Here again we have trouble caused by disturbed blood-circulation. The little arteries are walled by muscles that are under nervous control. Let them contract, and the flow of blood is almost cut off from the organs or tissues they properly supply. But the blood must go or

must stay somewhere in the body; so, whenever one part of the body is deprived of its rightful supply of warm blood, other parts will be over-full of blood and so over-warm. This accounts for the seeming mystery of chills coming when the temperature of the body rises. The surface of the body is cold; but the blood is kept inside, away from the outside air, and its temperature rapidly rises. Chills generally mean mischief. Perhaps it is only a breast abscess, or something much less fearful than childbed fever, that is meant. At any rate, send for the doctor. Chills are dreadful. The shivering, the teeth-chattering, the misery, all seem to the poor sufferer unendurable. What can be done? At the very first threat of a chill, perhaps it can be beaten off by hot applications. Jugs of hot water at the feet, or along the back; bran-bags or salt-bags from the oven laid almost anywhere on the body surface; hot drinks of liquor, or of ginger tea, — these are the common remedies. Undoubtedly there is something to be gained by heating the surface of the body. The real difficulty is the vicious squeezing of the arteries supplying the body surface. Once

make the nerves controlling these vessels stop the squeezing, and the chill will be over in no time. But this is no easy task. However, the nurse can help matters by allaying the patient's fears. The fuss that is sometimes made is almost enough of itself to scare a sick woman into a chill, and at any rate is enough to prolong its baneful course. To cheer and steady the sufferer is the main thing, meanwhile tucking the warm blankets snugly around her. The proper after-treatment is directly the opposite of what is commonly employed. As if to make the poor patient pay forfeit for some sin, after a chill she is generally made to swelter till she hardly knows which is the worse torment, shaking or sweating. This is all wrong. After "taking cold," an old-fashioned "sweat" is not bad treatment. But a regular chill is not from "catching cold." There is an accompanying fever, that is perhaps burning furiously. Instead of keeping on the load of bed-clothes, that so signally failed to stop the shaking, they should be taken off as soon as the chill is over. The sooner the body temperature falls, the better.

Cramps.

I remember a patient who, in the second stage of labor, several times threw herself out of bed, shrieking with pain. For a while no one could understand why she seemed relieved directly upon reaching the floor with her feet. It was because she so drove the cramp from her legs; and after her labor, she declared that the labor pains were nothing to bear in comparison with the awful cramp. Her manœuvres make plain the proper treatment. Just stretch the cramped muscles, and the agony is over. The flexor muscles are stronger than the extensors; and yet comfort depends upon their equal contraction: only so can a body rest. If the flexor muscles contract with all their might, the leg or the foot, or perhaps only one toe, flexes beyond the person's power to straighten it out, except by bringing into service other muscles. A bystander can always banish the ugly cramp, if it be in legs or arms, by straightening the limb forcibly. For a patient in bed, cramps in the legs can be prevented, or at least means of instant relief can be furnished, by putting into

the bed some brace against which the toes, the feet, and the legs can be pushed.

Colic.

Cramps may strike muscles not to be reached by any outside stretching. The muscles in the wall of the intestine not seldom suffer cramps. The pain is very severe, coming in spasms, and dying away only to return reinforced. Pressure upon the abdomen is comforting, but chief reliance is to be put on heat, applied both internally and externally. The best way is whatever is the quickest way of making the application. Bran-bags or salt-bags are very handy, and the nurse who, at the least hint of colic, puts such a bag into the warmer will deserve the hearty thanks of her patient for her thoughtfulness. Cloths, wrung out of hot mustard-water, or out of alcohol and hot water, or even out of hot water alone, are comforting. A turpentine stupe, as it is called, can generally be borne twenty minutes or half an hour, without blistering. The surface of the belly is then scarlet, and the colic probably has gone. Sometimes, only by internal warfare is it pos-

sible to dislodge the ugly foe. Hot drinks may suffice. If they produce vomiting, all the better. Generally, however, the lower part of the bowel is the part affected, which is more easily reached by enemata. Probably water, as hot as could be borne, injected into the bowel, would relieve the pain. While about it, it is just as well to use what one may be sure will work. A tablespoonful of spirits of turpentine, thoroughly mixed with two ounces of olive oil, or beaten up with the yolk of an egg, and then added to a pint of hot water, given by the rectum, will often dislodge the gas when all other measures fail.

Hysteria.

Some patients are more or less hysterical throughout their confinement. Nobody's woe was ever like theirs: nothing that the slaving nurse can do suits them. The patience of Job is needed in the care of such. The nurse must remember that there may be physical reasons for this most distressing condition. Extraordinary pains must be taken to make the poor woman comfortable; and then in firm manner

she is to be made to understand that her continued complaints are unreasonable; but if the nurse does not successfully bridle her own temper, her moral influence is nothing. Sometimes, on the other hand, a patient who hitherto has been cheery and considerate will break out into uncontrollable crying. Or perhaps she will become unconscious, but her eyelids probably quiver in her efforts to keep them shut. There is no need of describing the many forms hysterical paroxysms will assume. Suffice it that it always seems just as if the patient might come out of the attack if she only would try to do so. So she might; and a dash of cold water in the face would probably induce this effort on her part. But that would be cruel treatment of a sick woman. The better way, after making sure that she is not in position to injure herself, is to let her entirely alone. After the attack passes, she herself will admit her unreasonableness, and this opinion it is well to cultivate. Above all things, it is folly to ply her with comforts, and restoratives, and attentions, during the attack. To prevent its recurrence, let the chamber be kept even

darker and quieter. Let her feel that, until her nerves are stronger, the daily increase in little liberties is interrupted; but let her certainly see the way out of the slough. If she does not have another attack to-morrow, say that on the day after she can sit up perhaps. After all, the right treatment of hysteria is to better the general condition of the body, and, more important than even that, to turn the patient's thoughts from herself to others. Let the young mother think how to keep her baby well. It is unnatural to relieve her entirely of this care.

Convulsions.

Convulsions may be accidental. Hysteria, epilepsy, or some disease of the brain, may cause them. But the genuine puerperal convulsion is easily distinguished from the other kinds. Its premonitory symptoms, indeed, ought never to be misunderstood. *Eclampsia* is the medical name, which means "bright flashes," and refers to a sensation which the patient generally complains of before the attack. Headache, dizziness, loss of memory, gloomy forebodings, ringing in the ears, double sight,

are other but less important subjective symptoms. Contraction of the pupils, labored breathing, dyspepsia, nausea, and vomiting so often precede eclampsia, that they demand the attention of the patient's attendant. By far the most threatening symptoms, however, are puffiness of the face and hands and labia, stupor, and the partial suppression of the urine.[1] So constant is this last symptom, that it may be considered a cause of the convulsions. The poisonous salts normally excreted by the kidneys accumulate in the system beyond the limits of safety: the convulsion is nature's signal-gun of danger and distress.

If ever the ounce of prevention is valuable, it is in warding off this dreadful disease. The nurse who rightly interprets the premonitory symptoms, and secures the early attendance of the physician in charge, deserves the highest praise. The one great thing to notice is the daily amount of urine. Three pints or thereabouts is the normal amount; but even two or four pints is not a matter of concern; if only one pint is voided daily, there is cause for

[1] See page 22.

alarm. In such case, before even sending for the doctor, the nurse should give copious draughts of cream of tartar water, a teaspoonful of the powder to the tumbler of water.

The convulsion of eclampsia is characterized by (1) the patient's entire unconsciousness during the attack, (2) the absence of any cry at the beginning, (3) the folding of the thumb *inside* the clenched fist, and (4) the spasm of both sides equally.

Puerperal convulsions may come before, or during, or after labor. In either of the first two conditions, the proper treatment is at once to etherize. The question arises if the nurse should undertake this responsibility. If she should, then ought she not to carry ether against just this contingency? I answer, Yes, to both questions. There is, however, other work to be done. The patient must be made to perspire. The cream of tartar water may help to bring this about, as well as to start the kidneys into action. A sponge-bath of alcohol and mustard plentifully stirred in, followed by blankets and heaters, will also help. All this must be done very quietly, without alarming

the patient, or even letting her know what is the matter. There is no need, indeed, of her ever knowing that she has had convulsions. The nurse ought to stay by in calm command. Let the family run this way and that after the doctor, the mustard, and what not: it will be better for both the patient and themselves than to stand by, wringing their hands. Absolute quiet is essential. In case of any delay in the doctor's coming, the patient may be catheterized, (every drop of urine is to be measured and saved,) and may well receive a copious enema of warm water.

During the convulsion, if no ether is at hand, little can be done except to see that there is nothing tightly fastened about the patient, and to watch that she does not toss herself off the bed. If a piece of cork or wood can be placed between her teeth, it may save the tongue's being badly bitten. The handle of a tooth-brush is a good instrument for this purpose. After the first few convulsions the patient generally rouses to consciousness, as if from sleep; but later on there comes a deep sleep which bodes ill. One eighth of all puerperal deaths is due to eclampsia. The mortality is nearly one in three.

Post-partum Hemorrhage.

The nurse whose patient bleeds to death is inexcusable. Flooding to the endangering of life, happily, is a rare occurrence, and even less likely it is that this should happen when the nurse alone is in charge. Still, it may so happen, and no other occasion offers so great opportunity to the nurse for using her knowledge. The subject has already been partially treated in Chapter V.

The duties of the nurse in preventing this catastrophe are, after all, of most importance; and they can best be remembered by keeping in mind the causes inducing thereto. The main causes are, first, failure of the uterine muscles to contract, and, secondly, their failure to keep retracted. This poor condition obtains more frequently after exhausting or over-rapid labors, after artificial delivery, and when the uterus has been greatly distended, as in the case of twins or excess of amniotic fluid. Among the outside causes of this dangerous muscle failure which it most concerns the nurse to remember are general debility, suffer-

ing, unnecessary muscular effort, mental disturbance, heat, and bad air. The great obstacle to proper muscular closure of the uterus, and consequent closure of the blood-vessels that are left open at the separation of the placenta, is the retention of the placenta itself, of the membranes, of blood clots, or of small extra placentas which may have no connection with the main one. Fulness of the bladder or of the rectum may also be an obstacle to the necessary contraction.

Now, besides by the main causes just mentioned, post-partum hemorrhage may be caused by over-fulness of the uterine veins. This venous congestion may be induced by sudden motions of the patient, as by sitting up in the bed, by coughing, sneezing, laughing, or by straining to vomit or to defecate.

Preventive treatment consists in removing the causes. Thus, the saving of the patient from unnecessary disturbance of both body and mind, the furnishing of fresh air, the emptying of bladder and rectum, — duties binding in every case of midwifery, — all have the underlying reason of being safeguards against the

most awful accident that can happen in the lying-in chamber.

Given the hemorrhage, the treatment still consists in removal of the cause, with the added necessity of counteracting its effects. If the uterus is prevented from contracting, remove the obstacle. Sweep out the uterus with the whole hand. If the uterus is flabby and declines to contract, startle the lazy muscles: with one hand inside and with the other on the abdominal surface, knead the uterus vigorously; carry into it a lump of ice of the size of a hen's egg, or a sponge or cloth soaking with vinegar; inject slowly into the uterus hot water (115° F.); rub ice on the abdomen directly over the uterus, or slap the surface with a wetted towel; open the windows; raise the foot of the bed, or even ligature the legs to save all of the scanty blood possible for the vital centres; if the pulse fails, give brandy and water, half and half, in repeated small doses; keep up continuous outside pressure upon the uterus so long as, and for at least an hour after, the flooding ceases; keep the patient absolutely still. All these measures

must be at the nurse's instant service. One kind of treatment can be employed while another is preparing. Whatever can be quickest done is the best to begin with.

Hemorrhage may occur before or during the labor. The nurse's only chance of serving in such cases is in plugging the vagina, in order to blockade the outflow until the physician's arrival. Any plug will do: a sponge or crumpled handkerchief will do very well. Perhaps the best material at hand will be a soft handkerchief, the middle of which should be pushed into the vagina, and then stuffed with wads of the cotton waste, or indeed of any soft dry material. This plugging, or tamponing as it is called, must be very firmly done to be of any service.

CHAPTER X.

ODDS AND ENDS.

Duration of Pregnancy.

THE nurse will sometimes be consulted by her patroness regarding the probable date of the expected confinement. Unfortunately, there is a great deal of uncertainty in the best of predictions. Pregnancy is commonly considered to last nine months, and to begin at the beginning of the last menstruation. A confirming date is the "quickening," as the first sensation of the fœtal motion is termed. This may be expected to occur in the middle of the pregnancy, and is really the first sure sign of it. Cessation of the menses, darkening of the vagina mucous membrane and of the areola around the nipples, enlargement of the breasts and the presence of milk in them, "morning sickness," and no end of nervous symptoms, are more or less valuable hints of pregnancy, but there is no

proof of it until the existence of the fœtus itself is manifest. After three months of pregnancy it is possible to perceive that the uterus is gravid by the sense of touch. Later, it is possible to hear the fœtal heart through the mother's abdominal wall. However, the nurse will rarely be called upon to determine the question of the existence of pregnancy. In calculating its duration, it is well to assume that the child will be born at the time of the tenth menstrual period after its conception. If the mother's menstrual periods have been regular, and of the usual length, i. e. a lunar month, then her confinement may be expected when the tenth period would begin had there been no interruption. Thus, the usual period being twenty-eight days, confinement may be predicted for the two hundred and eightieth day after the beginning of the last menstrual flow. If the menstrual period heretofore has been longer or shorter than twenty-eight days, a somewhat earlier or later date than this for the expected confinement is not improbable. For convenience in reckoning, the following table is useful. The date of the quickening is given to serve when the date

of the last menstruation is uncertain. If the latter is known to have begun on any day subsequent to the first day of the month, the number of days after are to be added to the dates given in the columns of quickening and confinement. Thus, if the last menstruation began on the 10th of January, the probable date of the quickening by this table would be May 30, and of the confinement, October 18.

TABLE FOR CALCULATING THE DURATION OF PREGNANCY.

Beginning of last Menstruation.	Quickening.	Confinement.
Jan. 1	May 20	Oct. 8
Feb. 1	June 20	Nov. 8
Mar. 1	July 18	Dec. 6
Apr. 1	Aug. 18	Jan. 6
May 1	Sept. 17	Feb. 5
June 1	Oct. 18	Mar. 8
July 1	Nov. 17	Apr. 7
Aug. 1	Dec. 18	May 8
Sept. 1	Jan. 18	June 6
Oct. 1	Feb. 17	July 8
Nov. 1	Mar. 20	Aug. 8
Dec. 1	Apr. 19	Sept. 7

Incomplete Pregnancy.

Pregnancy may end accidentally at any time. The danger of such accident is greater at the

times when menstruation would occur, had there been no conception. Especial care to avoid this accident is therefore advisable at these times. If the pregnancy ends within the first three months, it is called a case of abortion, — a word that has an ugly sound, because of its employment in describing the criminal interference with pregnancy at any month. A pregnancy ending in the second three months is called a case of miscarriage; in the last three months, a case of premature birth.

At any time after six months the child may live for a few hours, but not till after seven months of intra-uterine life is it possible for a baby to live for more than a few days at most. There is an erroneous notion that an eight-months baby is less likely than a seven-months baby is to live. If this notion is founded upon experience, it is probably because the eight-months babies have lacked the extraordinary care that has been given to the seven-months babies. The fact is, that the more premature the baby, the greater is the care demanded. In the main, this care must be to keep the baby's temperature sufficiently high. Instead

of the ordinary dressing, it is better to dispense with the bath, and to be content with anointing with warm olive oil and swaddling with cotton batting. The child should then be kept in an atmosphere of from 80° to 90° F. But the necessity of an abundant supply of fresh air is not to be forgotten. No amount of artificial heat will compensate for lack of oxygen.

A double tin cradle with space for water between, which can be kept at the desired temperature by a gas or lamp flame beneath, will sometimes save the life of so frail a specimen of humanity that otherwise there would seem to be no chance for it. Such a cradle can be very successfully improvised out of two tin foot-tubs, if one is so much smaller than the other that only its handles rest upon the rim of the larger tub. The inner tub must then be loaded with stone, or other heavy material, that its relative position shall not be changed when water is poured between the tubs so as to reach nearly to their rims. Lined with cotton wool, the inside tub makes a good incubator; for, by a lamp flame underneath, the water between the tubs can be kept at the proper temperature of 100° F. The

temperature of the baby's nest will then be about what is wanted.

Success in saving the baby's life will then depend upon the amount of nourishment that can be taken and assimilated. If too feeble to nurse, the mother's milk can be drawn from her breast and given to the baby with a spoon. A weak solution of wine in water may also well be given. Such a baby ought to be fed at first every hour. As it gains in strength, these intervals may be increased, and the amount of artificial heat be decreased; but, for the time by which its proper intra-uterine life was shortened, this extraordinary care of it must be taken.

The care of the mother in cases of premature delivery does not differ from that already described for cases of ordinary confinement. Whenever, by reason of its immaturity or of any imperfections or ailments, the child's life is endangered, it is much better that all anxiety be kept from the mother. Not that she should be deceived. If the child's chance of life is slight, and if the mother is not in a critical condition, it is not well to keep her in ignorance

of the danger; for then, in case of the child's death, she may suffer a disastrous shock. But such a child should be cared for outside the confinement chamber. The mother must be urged to dismiss from her mind so far as possible all anxiety. And it is wonderful how fully this can be done. She can do nothing for her baby, and, if only she can feel sure that everything is being done for it by others, she can rest in comparative ease of mind. This, however, is impossible, if the ups and downs in the baby's case be discussed in the mother's presence.

The accidents of abortion and miscarriage are fraught with three great dangers. Because of the immaturity of the placenta, and its consequent difficult detachment from the uterus, there may be an excessive hemorrhage and a retention inside the uterus of some portion of the fœtal membranes. Either or both of these disasters may obtain; and almost always there follows an incomplete reduction of the uterus, — a sub-involution as it is called. Thus the patient may die from loss of blood, or from septicæmia, caused by the retained fœtal matter;

and she is in still greater danger of all the ills consequent upon having the uterus remain over large and heavy. Besides the care necessary in ordinary confinement cases, especial care, therefore, is needed in these cases, that the uterus is completely emptied of its fœtal contents, and that the patient is kept at rest for sufficient time to secure the return of the uterus to its normal condition. In the main, of course, this care devolves upon the medical adviser. But the nurse attending in such a case must stand ready to meet alarming hemorrhage, and must lend all her influence to keep the patient at rest, certainly for so long as would be proper had the confinement been at full term.

Records.

Nurses should keep full records of all their cases, both for the physician's use at his daily visits and also for their own improvement. These can well be kept on separate sheets of paper, each one being properly numbered and dated, and afterwards stitched together for preservation. It is better that the record should be too full of details, than that it should lack

items ever likely to be of importance. For this reason, the record of the first days of the confinement ought to contain more than that of the later days. In event of the patient's doing poorly, say after a week of normal convalescence, it may be both interesting and important to know the amount of urine passed, how many times the catheter was used, when the bowels moved, etc., — matters that at the time appear of little consequence. But after a week of normal convalescence there is not nearly so great a chance that such details will ever be of interest.

The full name, the age, the nationality, the residence, the general character of the patient, and the number of her previous pregnancies, with any unusual circumstances related of them, should be the first items of the record. But it is not the nurse's business to inquire. She has only the right to record what she hears, what she sees, and what she does. And these items, together with the name of the attending physician, are merely for the nurse's satisfaction. The clinical or bedside record proper begins with any details of medical interest that precede

the labor. Thus, the general physical condition of the patient, her appetite, the amount of urine passed, the amount of exercise and of sleep taken, etc., should be recorded. The record of the labor should include the times of the beginning of the various stages and of the ending of the last stage. The times, too, of the physician's visits may be noted, and any characteristics of the labor that come under the nurse's observation. The sex, weight, and general condition of the baby, followed by notes of its progress, must also find place in the record. If a temperature chart is kept, there can be no objection to the nurse's retaining at least a duplicate of it. The physician's orders must be most plainly recorded, and every deviation from them also.

A Specimen Record.

Mrs. X. Y. Zenophon, 25 years, primipara. Main Street, Notown. Dr. A. B. Carenotwho attending. Summoned April 1, 1886, at 3 P.M. Found patient a small and nervous woman. She had been suffering for several days pain in the small of the back. Bowels had not moved for three days. Frequent and copious micturition.

Gave enema, soap-suds, at 5 P. M. Good result. Patient rested well that night till 4 A. M., when pains began. Physician notified at 6 A. M. that labor had begun. Gave cup of gruel at 7 A. M. Doctor came at 8 A. M. Ordered enema of warm water. Scanty discharge followed. Pains every ten minutes through forenoon. Doctor called at 12.30 P. M. Eggnog at 1 P. M. Vomiting followed. Cup of tea at 3 P. M. Examined by vagina at 3.30. Os size of silver dollar. 5 P. M. membranes ruptured, large amount water escaped. Examined and found os half dilated, head presenting. At 6 P. M. pains grew more severe and frequent. Sent for doctor and put patient to bed. At 7.30 P. M. doctor catheterized. Urine Oss. Pains then became very hard. Boy born at 9 P. M. Third stage ended at 9.30. No hemorrhage. Held uterus one hour. Changed the bed, etc., at 11 P. M. Patient slept till 12. Gave tumbler of gruel, and she soon fell asleep.

April 3. Changed napkins at 12.15, 3, and 7 A. M. Moderate flowing. Washed baby at 1 A. M. Gave him teaspoonful hot water at 6.30 A. M., which stopped his crying. Patient slept most of the night. Cup of tea and half a slice cream toast at 7 A. M. Complained of pain in abdomen. During doctor's visit at 8.30 she passed urine Oj, and several large clots. T. 98.8. P. 80.

Doctor's Orders. *Gruel and milk and bread as much as the mother wants. Hot cloths over abdomen*

if pain there. Douche daily, of carbolic acid one to a hundred. For baby, milk one part, hot water three parts, ℥j *once an hour when fussing.*

Comfortable day for both mother and child. Gave douche at 10 A. M. Gave milk to mother, one half-tumbler at 11 A. M., 3 and 9.30 P. M. : gruel one tumbler at 12 M. and 6 P. M. Baby fed several times during the day. He slept most of the time : passed urine and meconium all right. T. 99.2, P. 88, at 6 P. M. Mother passed urine Ojss at 10 P. M.

April 4. Baby cried a good deal through the night and kept its mother awake. Gruel and toast breakfast at 7 A. M. Douche at 8 A. M., and urine Oj at same time. T. 99.5. P. 84. Complains of breasts, which are quite hard. At 10 A. M. doctor *ordered breasts to be bandaged. Licorice powder, teaspoonful; repeat in six hours,* S. O. S. *Enema at time of inclination of bowels to move. Beef tea, cooked fruit, farina pudding, added to diet. Baby to nurse.*

Licorice powder at 12 M. Enema at 5 P. M. Large dejection. Baby did not nurse well.

April 5. Fairly good night. Patient complained only of painful micturition, and constant desire. Lochia somewhat offensive, but plentiful. Douche at 8 A. M. came away very turbid. T. 100. P. 90. — Doctor's Orders. *Douche twice daily. Cream of tartar, one teaspoonful in tumbler water t. i. d.*

Cream of tartar water given at 10 A. M., 4 and 9 P. M. Evening douche at 6 P. M.: less turbid. Appetite poor. Baby slightly jaundiced, but apparently well. Evening T. 99.5. P. 84.

April 6. Patient slept well, waking only to nurse baby at 12.30 and 5 A. M. Micturition less painful, urine copious. Bowels moved naturally at 9 A. M. T. 98.8. P. 80. — ORDERS. *General diet, eggnog with whiskey,* fl.℥ss. *twice a day. Discontinue breast bandage.*

In the P. M., patient complained of headache. The second eggnog omitted.

April 7. Good night. Baby's cord came off, leaving navel raw. Applied cloth smeared with vaseline. Hearty breakfast. T. 98.4. P. 78. — ORDERS. *Discontinue cream of tartar water. Allow visit of patient's brother.* — Baby very fretful in the P. M. Patient worried. T. 99.2. P. 88.

April 8. Slept little, on account of baby, till 1 A. M. Baby removed, and given anise-seed tea by aunt. T. 99. P. 82. — ORDERS. *Feed baby twice a day, milk and water, equal parts.* — Baby comfortable. Mother ditto.

April 9. Fair night, interrupted twice by noise of street brawls. Lochia almost stopped. — ORDERS. *Omit evening douche.* — Morning T. 90.2. P. 76. Evening T. 98.6. P. 80. Bowels moved by enema in P. M.

April 10. Morning T. 98.4. P. 76. Evening

T. 98.6. P. 78. Patient complained of smarting when urine passed. Doctor did not call. Gave cream of tartar water in P. M. Appetite excellent.

April 11. Patient eating and sleeping well. T. and P. normal. Baby somewhat fussy, and not thriving. — ORDERS. *Let patient sit up half an hour to-morrow. Carry baby out of doors for a few minutes each day.*

April 12. Patient not feeling strong enough to want to sit up; otherwise well. Slight pus discharge on napkin. Baby's dejections green and frequent.

April 13. Doctor examined patient. — ORDERS. *Discontinue extra feeding of baby.*

April 14. Patient sat up for an hour and received several callers. Was very tired. Reappearance of bloody lochia. Changed napkins three times during P. M. and evening.

April 15. ORDERS. *Pills (ergotine?) every six hours. An iron mixture t. i. d.* Patient sat up both forenoon and afternoon. Flowing diminished.

April 16. ORDERS. *Omit pills and eggnog.* — Patient dressed. Baby first-rate.

April 20. Called away to another case. Left both mother and baby doing nicely.

Fine rhetoric and stylish handwriting, and even accurate spelling, are not necessary to a

nurse's good records. Abbreviations can be used wherever possible. Plainness is the great desideratum. Use a soft dark pencil, and plenty of paper.

Poultices and Fomentations.

A well-made poultice is a most comfortable thing; but if not well made to begin with, or if not properly applied, or if left on too long, it is as uncomfortable a thing as can be imagined. The advantages of a poultice are its heat and moisture. Sometimes only its moisture is needed, as in the case of wounds to keep them from superficial closure. But in monthly nursing there is little chance of needing a poultice except for its heat. Boiling water, then, must be had. Scald out the tin basin first. Fill with as much boiling water as needed. Slowly sift into the water, while stirring vigorously, any kind of meal. Linseed (flaxseed) meal is often used because of its oiliness, by reason of which its moisture is kept longer. But oatmeal or corn meal does very well. A still nicer poultice can be made of starch, either laundry or cooking starch. A paste is first

made by rubbing the starch with cold water. Then this paste is added to boiling water, and boiled for a minute or two. Whatever material is used, the poultice must be just stiff enough to spread well. Lay, on a board previously heated on the stove, the back-cloth of several thicknesses, folded to the size of the poultice wanted. Spread on this the poultice. A case-knife, occasionally dipped in hot water, makes a very good spatula for spreading the paste. Cover with a thin cloth sufficiently large to allow doubling back over the edges and fastening securely at the back. Roll the poultice up in flannel if any time intervenes before applying it to the patient. Sometimes, when counter irritation is desired, mustard may be dusted sparingly, but evenly, over the poultice. Or, if it is desirable not to irritate the skin, the poultice may be oiled before applying. After leaving the poultice in place for a few minutes, to make sure the heat of it can be borne, it should be covered with several thicknesses of flannel, to prevent loss of heat, and then securely fastened to the patient, to avoid the entrance of air between it and the skin.

Fomentations.

Heat can be applied without the delay of making a poultice by wringing cloths out of hot water. Flannel or any other kind of woollen cloth keeps the heat longer than cotton. The best way of preparing the fomentation is to use a piece of cloth the ends of which are sewed together like a roller towel. Then, with sticks in the folds, the cloth can be wrung dry by twisting them in opposite directions. Shake the cloth, that air may be taken into it in place of the water, before folding it to the size wanted. The confined air, being a poor conductor of heat, makes the heat of the fomentation last longer. To this end it is also well to cover the fomentation when in place with oil-silk, or rubber water-proof cloth, and to lay over that a thick blanket.

Counter irritation may be made by using mustard in the water out of which the fomentation is wrung; or by sprinkling the fomentation with spirits of turpentine. A *turpentine stupe* may be made in a still better way by laying next the skin, underneath the fomenta-

tion, a single layer of thin cloth (muslin or cheese-cloth) wrung dry out of spirits of turpentine. The skin should be well greased with sweet oil or with lard before making this kind of application.

APPENDIX.

COOKERY FOR INVALIDS. — RECIPES.

GRUELS.

Corn-starch or Rice-flour Gruel.

1 cup boiling water, 1 salt-spoonful salt, 2 teaspoonfuls of the corn-starch or rice-flour wet in a little cold water. If wheat-flour is used, allow a little more than of the others.

Mix the flour and salt, and with the cold water make a smooth paste. Pour this into the boiling water and let it cook five or six minutes. Strain into a hot cup; add a little sugar if desired. This gruel may be pleasantly varied, by adding a little lemon juice; or by boiling with the gruel a bit of stick cinnamon or a little nutmeg. When gruels are found to be too thick to suit the patient, thin the gruel with a little boiling water or milk. In making gruels, stir frequently (unless a double boiler is used) to prevent it from being lumpy, or scorching. All cooking of this kind must be carefully watched. Have the saucepan, or double

boiler, the strainer, and everything that is used, perfectly clean and sweet.

Indian Meal Gruel.

½ cup Indian meal. 3 pints boiling water.
½ teaspoonful salt, and a little cream.

Wet the meal and salt with a little cold water. Stir into the boiling water, and boil slowly three or four hours, stirring occasionally.

Have in your cup a little cream, or warm (not boiled) milk. Strain the gruel into the cup, being sure that it is smooth and hot. Sugar may be added if desired.

Oatmeal Gruel.

Crush, with a rolling-pin or pestle, two thirds of a tumbler of oatmeal; put back in the tumbler, and fill the tumbler with cold water, stirring as it begins to settle; pour off the water; do this three times. You will then have one tumbler of oatmeal water; boil this twenty minutes, or till it is reduced one half. Have in your warmed cup a tablespoonful of cream or milk, with a pinch of salt. Strain the gruel into the cup, stirring till smooth.

Arrowroot.

1 teaspoonful arrowroot. 1 cup boiling water.
Pinch of salt, cream, sugar, brandy.

Use the best Bermuda arrowroot. Wet the arrowroot with a little cold water, add a pinch of

salt, and make a smooth paste, about the consistency of thick cream. Add while stirring, one cup of boiling water and boil three minutes. Have, in a warm teacup, a lump of white sugar, a tablespoonful of cream, and, if allowed by the physician, two teaspoonfuls of brandy. Strain the arrowroot into the cup, stirring until the sugar is dissolved and the contents thoroughly mixed.

Milk Porridge.

2 dozen raisins quartered. 1 tablespoonful flour.
2 cups milk. Salt to taste.

Boil the raisins in a little water twenty minutes. Let the water boil away, and add the milk. When boiling, add the flour, rubbed to a smooth thin paste. Boil all together ten minutes. Season with the salt, and strain.

Corn-meal Mush.

1 cup corn-meal. 1 cup cold milk.
½ teaspoonful salt. 1 pint boiling water.

Mix the meal and salt with the cold milk, and stir gradually into the boiling water. Cook half an hour in the double boiler, stirring often.

Graham Mush.

Mix half a cup of Graham flour and half a teaspoonful of salt. Make into a smooth paste with a little cold water. Stir all into one pint of boil-

ing water. Cook twenty minutes, stirring often. Serve with cream.

Rye Mush.

Rye mush is made in the same manner, and served with sugar and cream; sometimes with molasses.

Gluten Mush.

Use one cup of gluten to one pint of boiling water, and cook as above. The gluten is destitute of starch, and will not thicken like the rye mush.

Oatmeal Mush.

1 cup granulated oatmeal. 1 scant quart boiling water.
½ teaspoonful salt.

Put the meal and salt in the double boiler, pour on the boiling water, and cook two or three hours. Stir occasionally with a fork, serve with sugar, cream, or with baked sour apple, or apple jelly.

BROTHS, ETC.

Beef Tea.

Take about one pound round of beef and cut off all the fat, broil it two minutes over a quick fire, then cut into dice; put a layer of bits of beef in a Mason jar, sprinkle over it a little salt, then another layer of beef and a sprinkle of salt, and so on

until the beef is used. Add eight or ten black peppercorns, then cover all with cold water, and stir once thoroughly. Place the jar in a kettle on a trivet, or two small pieces of wood or skewers, to prevent the jar from cracking; fill the kettle with cold water, surrounding the contents of the jar entirely. Set the kettle where it will be kept hot, but will not boil, for three or four hours; then strain through a coarse sieve. Skim off all the fat: if any fat remains, it will rise to the top, and may be taken off *when the tea is cold.* Serve hot or cold.

Broiled Beef Essence.

Broil half a pound of round steak one or two minutes, or until the juice will flow; cut it into small pieces, and squeeze the juice into a bowl placed over hot water. Add a pinch of salt, and serve at once; or pour it over a slice of dry hot toast. Or a *beef tea* may be made by adding half a cup of boiling water to the meat after broiling as above.

Chicken Broth or Jelly.

Clean thoroughly one chicken, and cut into small pieces. The bones may be broken or cracked. Place all in a stewpan, and cover with cold water. Let it simmer gently until the meat is tender; then strain, and when cool remove all the fat. There

will be sufficient stock to serve two or three times, and it may be varied. First, season with salt and pepper, or lemon juice. Secondly, season, and cool in small cups for jelly. Thirdly, mix one cup of the chicken stock, one cup of rich milk or cream, and the well-beaten yolks of two eggs; place in the double boiler, and cook until it thickens like custard; add a pinch of salt, and pour into custard cups. Serve cold. Fourthly, a few small pieces of the meat may be served in the broth, and a little cooked rice. The stock or jelly must be kept in a cool place, and carefully covered.

Beef Jelly or Bouillon.

4 lbs. beef, round. 4 peppercorns.
2 lbs. bone. 4 cloves.
2 qts. cold water. 1 tablespoonful mixed herbs.
1 tablespoonful salt.

Wipe and cut the meat and bones into small pieces, and put into the stewpan with the seasoning. Add the cold water, and place it where it will heat gradually, but not boil. Let it simmer five hours, or until it is reduced to about three pints. Strain, remove the fat, and add a little salt and pepper if needed. This may be poured into moulds or cups and served cold, or it may be heated and a few vegetables added, or only rice, macaroni, or a little cooked barley.

Mutton and Rice Broth.

2 lbs. lean mutton. 1 lb. cracked mutton bones.
2 eggs. ½ cup milk.
1 cup boiled rice. 1 qt. water.

Chop the meat fine, and place with the bones in the soup kettle. Cover with water, and boil until the bones are clean and the meat white and tasteless. Strain, and add the rice, and a little minced parsley; simmer together half an hour; then add the milk and beaten eggs. Cook five minutes and serve.

Veal and Tapioca Broth.

One pound well-cracked veal bones; one quart water. Let the bones and water simmer for several hours until the liquid is reduced one half. Strain and when cold skim. Return to the fire with two tablespoonfuls of soaked tapioca; then boil gently an hour longer. Add three tablespoonfuls of cream and an egg beaten light. Boil up once, and serve.

BROILS.

Broiled Steak.

Steaks should be cut one inch thick at least. Grease the gridiron, and place the steak upon it, over a clear quick fire, being careful not to scorch

or burn. Cook from three to five minutes, or a little longer if liked well done. Turn the gridiron frequently. A good way is to count three slowly and turn, and so on until the steak is cooked. Have ready a hot platter. Season with butter, salt, and pepper.

A tough steak may be made tender by soaking it in vinegar a few minutes, then wipe dry and broil.

Broiled Lamb or Mutton Chop.

Place the chop in a piece of white writing-paper well buttered. Turn the edges in all around, like a turnover. Broil over a clear fire, from eight to ten minutes, turning frequently, being careful not to let the paper catch fire. Sprinkle with salt and pepper, and serve hot.

Broiled Quail and other Birds.

Cut off the wings close to the body. Cut off the feet at joints to prevent shrinking. Cleanse shot wound. Draw, cleanse, and wipe thoroughly. Cut down the back, and open out. Put the legs back towards the head, cross them. Spread with soft butter, sprinkle salt and pepper, dredge lightly with flour. Place in a well-buttered piece of writing-paper, fold in the edges so as to cover well, and broil over a clear fire from eight to ten minutes,

turning whenever the paper smokes. Serve on buttered toast and garnish with parsley.

Broiled Oysters on Shell.

Wash the shells thoroughly. Have a large flat dish where it will keep warm, a coarse towel, and a heavy knife. Put the oysters on the hot cover of the stove, with the bowl of shell *down*. As soon as one cracks and opens a trifle at the edge, take it off, pry open the top of the shell, being careful not to spill any of the liquid, and place the bowl of the shell containing the oyster and liquid on the hot platter. Remove each one from the fire in the same way. Serve very hot, in the shells.

BEVERAGES.

Tea.

Have the water freshly boiled, — never use that which has stood boiling for hours on the stove. Scald the teapot, place in it the tea, allowing about a teaspoonful of tea for each person, — reducing the quantity somewhat if there are more than five persons. Pour over the tea, in the pot, enough hot water to rinse the leaves, shake, and pour off. If the teapot is not provided with a strainer, an outside strainer must be used. Allow one cupful

of boiling water for each spoonful of tea, and let it stand where it will keep *hot*, but *never* boil, for five minutes.

Coffee.

One small cup of ground coffee, one quart of water, and one egg, will make sufficient coffee for four or five people. Scald the coffee-pot, and be sure that the egg is clean. Stir the whole egg and shell with the coffee, and add half a cupful of cold water. Let it stand five minutes, then add the boiling water, and boil five or six minutes. Stir it once with a spoon. Pour out a little to clear the spout, pouring back into the pot the coffee thus poured out. Set the pot on the back of the stove to settle for a few minutes. Loaf-sugar and cream, or boiled milk, are essential to a good cup of coffee.

Eggnog.

Beat the yolk of one egg and one tablespoonful of sugar to a cream. Add two tablespoonfuls of wine, or one tablespoonful of brandy or old Jamaica rum. Add half a cupful of milk. Beat the white of the egg to a froth, and stir in last, and lightly.

Lemon Eggnog.

Beat the yolk and white of an egg separately. Mix. Add the juice of half a lemon and a small teaspoonful of sugar. Ice the mixture, and add milk slowly while vigorously stirring.

Wine Whey.

Boil one cup of new milk, and add one cup of wine. Let it stand on the back of the stove a few minutes, and, when the milk separates, strain, and sweeten to taste. Serve cold.

Lemonade or Orangeade.

Scald the juice of one lemon or orange; add one tablespoonful of sugar and one cup of water. Strain out or remove the seeds.

Irish Moss Lemonade.

Pick over and wash as much Irish moss as you can take up easily in the hand. Pour over it a quart of boiling water, and let it steep until the goodness is extracted from the moss, but do not boil. An hour is sufficient. Beat together half a pound of loaf-sugar and the juice of four lemons, and strain the moss water into it. More or less sugar may be used according to taste.

Jelly and Ice.

Any kind of sour jelly may be mixed with half a tumbler of bits of ice, for a refreshing drink.

Restorative Jelly.

½ box gelatine. 2 tablespoonfuls lemon juice.
1 cup port wine. 3 tablespoonfuls sugar.
2 cloves. 1 tablespoonful gum Arabic.

Put all together in a glass jar and cover closely. Place the jar on a trivet in a kettle of cold water, and heat it slowly. When all is dissolved, stir and strain into a mould, or into a shallow dish. Cut into small squares when it is cool.

Orange Jelly.

½ box gelatine. Juice of 1 lemon.
½ cup cold water. 1 cup sugar.
1 cup boiling water. 1 pint orange juice.

Soak the gelatine in cold water until soft. Add the boiling water, the lemon juice, sugar, and orange juice. Stir till the sugar is dissolved, and strain.

Lemon Jelly.

½ box gelatine. 1 cup sugar.
1 scant cup cold water. ½ cup lemon juice.
1 pint boiling water. 1 sq. inch stick cinnamon.

Soak the gelatine in the cold water till soft. Shave the lemon rind thin, using none of the white. Steep it with the cinnamon in the boiling water ten minutes; then add the gelatine, sugar, and lemon juice. Stir till dissolved, and strain.

Boiled Custard.

1 pint milk. 4 tablespoonfuls sugar.
4 eggs. A pinch of salt.

Let the milk come to a boil in the double boiler. Beat together the eggs and sugar, and add to the boiling milk. Stir constantly, and, the moment it begins to thicken, remove from the stove, and strain into a bowl or pitcher. Add the salt, and a little vanilla, if liked. Pour into glass cups and cool.

Baked Custard.

1 quart of milk. 5 tablespoonfuls of sugar.
5 eggs. A little salt and nutmeg.

Beat the eggs and sugar together. Add the milk and salt. Pour into a deep dish or into custard cups. Grate a little nutmeg over the top. Place the dish or cups in a pan of water and bake. The custard may be tested by a spoon; if the spoon comes out clear and dry, the custard is done.

Toasted Bread.

Cut the bread evenly in slices one quarter of an inch thick. Place in a toaster, and hold over a clear fire, turning frequently, until it is of a light golden brown color. Do not leave it for one second. Serve *hot*.

WEIGHTS AND MEASURES IN COMMON USE WITH PRACTITIONERS.

gr. j = 1 grain.
℈j = 1 scruple = 20 grains.
ʒss = half a drachm = 30 grains.
ʒj = 1 drachm = 60 grains.
℥ss = half an ounce = 4 drachms
℥j = 1 ounce = 8 drachms.
℔j = 1 pound = 16 ounces.
♏j = 1 minim.
fl. ʒj = 1 fluid drachm = 60 minims = 1 teaspoonful.
fl. ʒij = 2 fluid drachms = 1 dessert spoonful.
fl. ℥ss = half an ounce 4 fluid drachms = 1 table-spoonful.
fl. ℥j = 1 fluid ounce = 8 fluid drachms = 2 table-spoonfuls.
fl. ℥ij = 2 fluid ounces = 1 wine-glassful.
fl. ℥iv = 4 fluid ounces = 1 teacupful.
Oj = 1 pint = 16 fluid ounces
gtt. j = 1 drop.
gtts. ij = 2 drops.

Drops vary greatly in size. The minim, therefore, is a much more accurate measure. Measuring-glasses graduated to show both minims and drachms can be found at any apothecary's. Every nurse should have one, and so avoid the errors that come in using different-sized spoons as measures.

THE METRIC OR DECIMAL SYSTEM OF WEIGHTS AND MEASURES.

The metric system is based upon the meter as a standard unit of length, which is about 39.37 inches. The metric unit of fluid measure is the liter, or the cube of $\frac{1}{10}$ meter, which is equal to about 34 ounces. The metric unit of weight is the gram, which represents the weight of one cubic $\frac{1}{100}$ meter (centimeter) of water, and is equal to about 15 grains. The gram is the unit generally employed in dispensing medicine.

gm.
1. = one gram.
.1 = one tenth of a gram, or ten centigrams.
.01 = one centigram.
.001 = one milligram.

An average teaspoon holds five grams of water.

An average tablespoon holds twenty grams of water.

An average drop of water equals five centigrams.

ABBREVIATIONS

COMMONLY USED IN PRESCRIPTIONS AND IN MEDICAL RECORDS.

ĀĀ (ana). Of each.
AD LIB. (ad libitum). At pleasure.
BIS IND. or B. D. (bis in die). Twice a day.
DIV. (divide). Divide (thou).
F., FAC, or FT. (fac *or* fiat). Make.
LIQ. (liquor). A solution.
M. (misce). Mix.
O. (octarius). A pint.
P. R. N. (pro re nata). According to circumstances. Occasionally.
PULV. (pulvis). Powder.
S. O. S. (si opus sit). If there be need.
SPIR. (spiritus). A spirit.
SYR. (syrupus). A syrup.
TR. (tinctura). A tincture.
T. I. D. (ter in die) Three times a day.
UNG. (unguentum). An ointment.

GLOSSARY OF MEDICAL TERMS.

Abdomen. The belly.

Abortion. Untimely birth. Expulsion of the fœtus before it is capable of living.

Abscess. A collection of pus in a cavity, caused by inflammation.

Accoucheur. One who practises midwifery.

Amniotic Fluid. See *Liquor Amnii.*

Ante partum. Before birth.

Antero-posterior. Front to back.

Antiseptic. Preventive of putrefaction.

Anus. The outlet of the large intestine or rectum.

Catheter. A tube for drawing off the urine.

Cervix. Neck.

Clinical. Belonging to the bed ; bedside.

Colic. Intestinal pain.

Colostrum. The first milk.

Convalescence. The period of recovery after sickness.

Convulsions. A violent involuntary agitation of the limbs and muscles.

Counter Irritation. An irritation excited in a part of the body for the purpose of relieving one existing in another part.

Cystitis. Inflammation of the bladder.

Defecation. The expulsion of fæces from the body.

Delirium. Wandering of the mind.

Diphtheritic. Having a false membrane.

Douche. A stream of fluid directed towards any part of the body.

Eclampsia. Puerperal convulsions.

Embolism. Obstruction of the blood-vessels by a floating blood clot.

Erysipelas. An inflammatory disease of the skin.

Fæces. The discharges from the bowels.

Fissure. A crack.

Flatulence. A morbid collection of gas in the bowels; wind.

Flexion. The state of being bent.

Fœtus. An unborn child.

Fomentation. Bathing with hot wetted cloths.

Fontanelle. The space in the child's skull where the bones fail to meet.

Fornix Vaginæ. A vault or pocket between the cervix uteri and the vaginal walls.

Fundus. The base, or bottom.

Germicide. Anything that kills germs.

Hemorrhage. Bleeding.

Intra-uterine. Inside the uterus.

Lesion. An injury to, or a diseased condition of, any part.

Ligature. A surgical appliance for tying.

Liquor Amnii. The fluid that surrounds the fœtus, inside its membranes, within the uterus.

Lochia. The discharges from the vagina after childbirth.

Meatus. An orifice.

Meconium. The fæces of a new-born child.

Menstruation. The periodic discharge from the uterus.

Micturition. Passing urine.

Milk Leg. An inflammation of the leg veins.

Miscarriage. See *Abortion.*

Mucus. A fluid secreted by the mucous membranes, or the lining of the body passages.

Multipara. A woman who has borne at least one child.

Nates. The buttocks.

Obstetrics. Midwifery.

Occiput. The back of the head.

Os uteri. The mouth of the womb.

Paroxysm. A fit; a sudden increase of symptoms.

Parturient. Pertaining to childbirth.

Parturition. Birth.

Pelvis. The lower part of the abdominal cavity.

Perinæum. The space between the anus and the genitals.

Peritoneum. The membrane that lines the abdominal cavity and also surrounds the viscera.

Placenta. A soft, spongy body, full of blood-vessels, adherent to the inside of the uterus, and connected with the fœtus by the umbilical cord.

Pregnancy. The state of being with child.

Presentation. The part of the fœtus that presents itself to examination by the vagina.

Primipara. A woman pregnant with her first child.

Pubic. Pertaining to the front arch bones of the pelvis.

Puerperal. Belonging to childbearing.

Pulmonary. Belonging to the lungs.

Pus. Suppurating matter.

Quickening. The first sensation the mother has of fœtal motion.

Rectum. The last portion of the bowel.

Sacrum. The back bone of the pelvis.

Sebaceous. Belonging to the glands of the skin that secrete a suety substance.

Septicæmia. Blood poisoning.

Serous. Of the nature of *serum*, the fluid portion of the blood resembling milk-whey.

Stupe. See *Fomentation.*

Suppository. A mass containing medicine, generally mixed with a substance that will melt, used in the rectum.

Suture. A seam.

Syncope. Fainting.

Tampon. A plug.

Thorax. The chest.

Thrush. A fungous growth in the mouth.

Traction. Pulling.

Trivet. A stool having three legs.

Ulcer. A sore.

Umbilicus. The navel.

Urethra. The canal through which urine is discharged from the bladder.

Uterus. The womb.

Vagina. The canal leading into the uterus.

Venous. Belonging to the veins.

Vernix Caseosa. The fatty varnish found upon the fœtus.

Vertex. The top.

Vesico-vaginal Fistula. A false passage from the bladder into the vagina.

Viscera. The contents of the abdomen.

Vulva. The female external organs of generation.

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